



CCA GCA ACC AAT GAT GCC CGT T-TAMRA-3'
CA GCA ACC AAT GAT GCC CGT T-TAMRA-3'

CCA GCA AGC ACT GAT GCC TGT T-TAMRA-3'
CA GCA AGC ACT GAT GCC TGT T-TAMRA-3'

Fig. 1A

	Fluorescent Dyes	
	<u>Absorbance Maxima</u>	<u>Emission Maxima</u>
Fluorescein	494nm	525nm
Tetrachloro fluorescein	521nm	536nm
TAMRA	565nm	580nm

Fig. 1B

Cleaved Fragments:

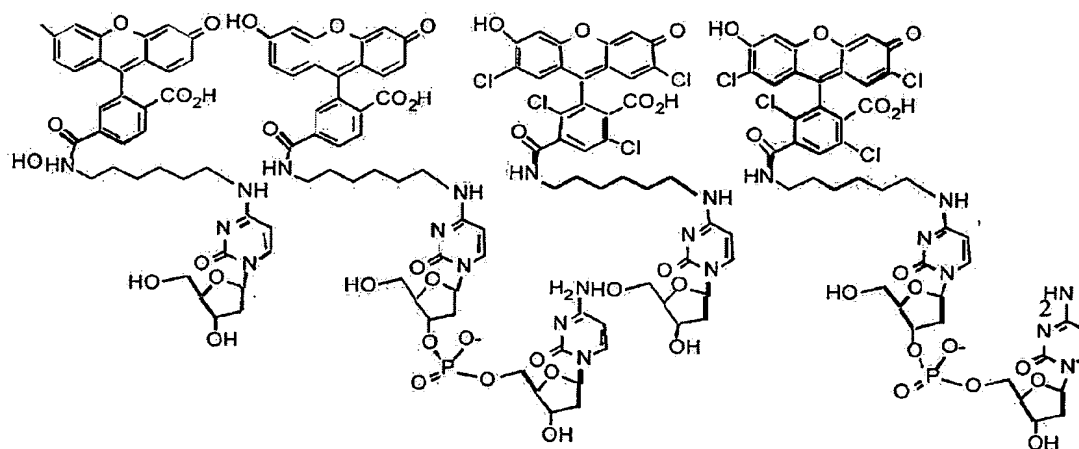


Fig. 1C

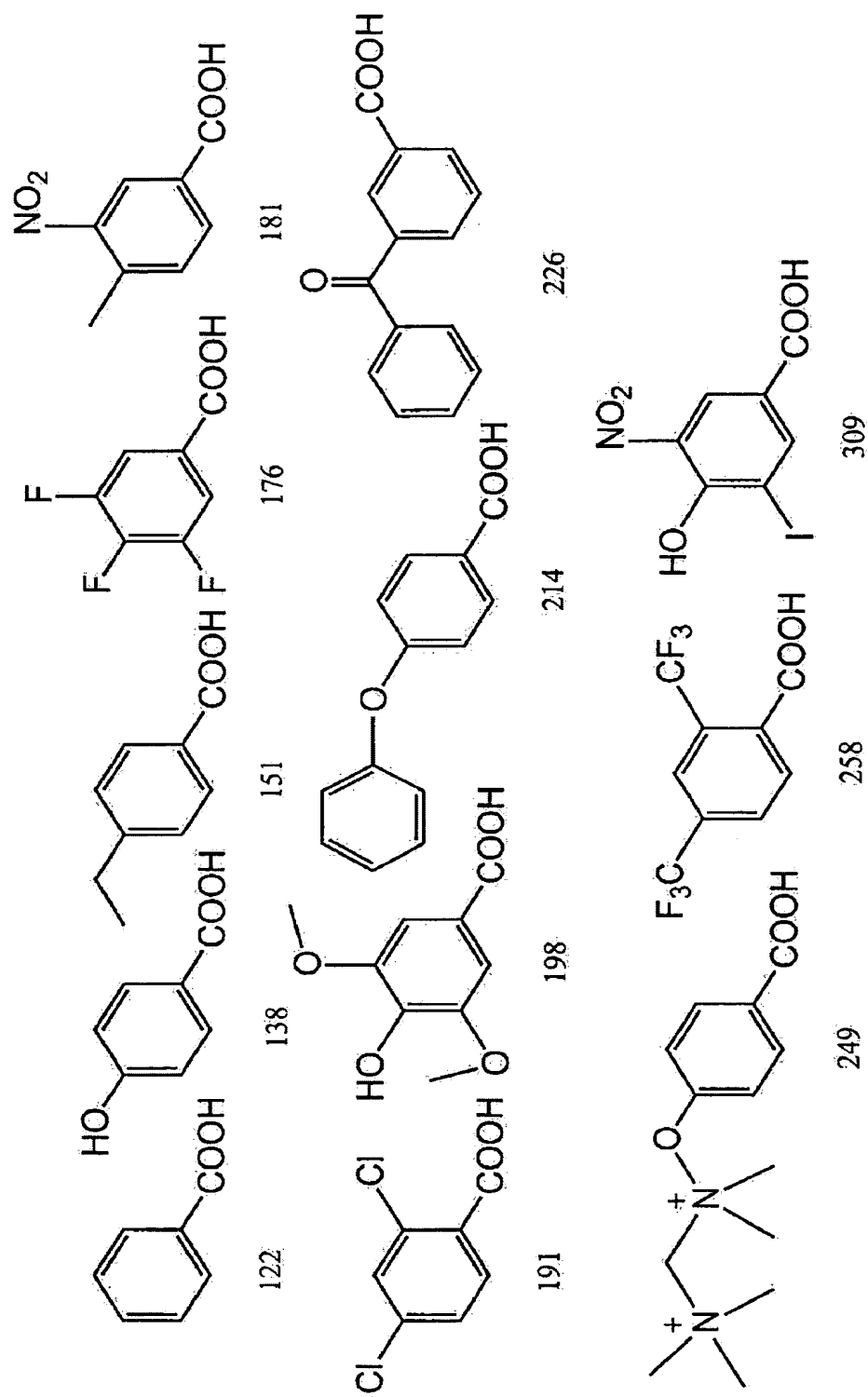


Fig. 2

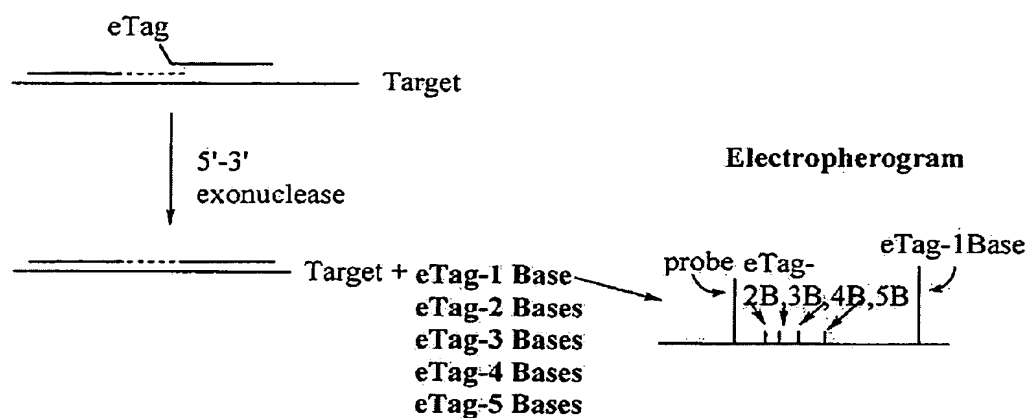


Fig. 3A

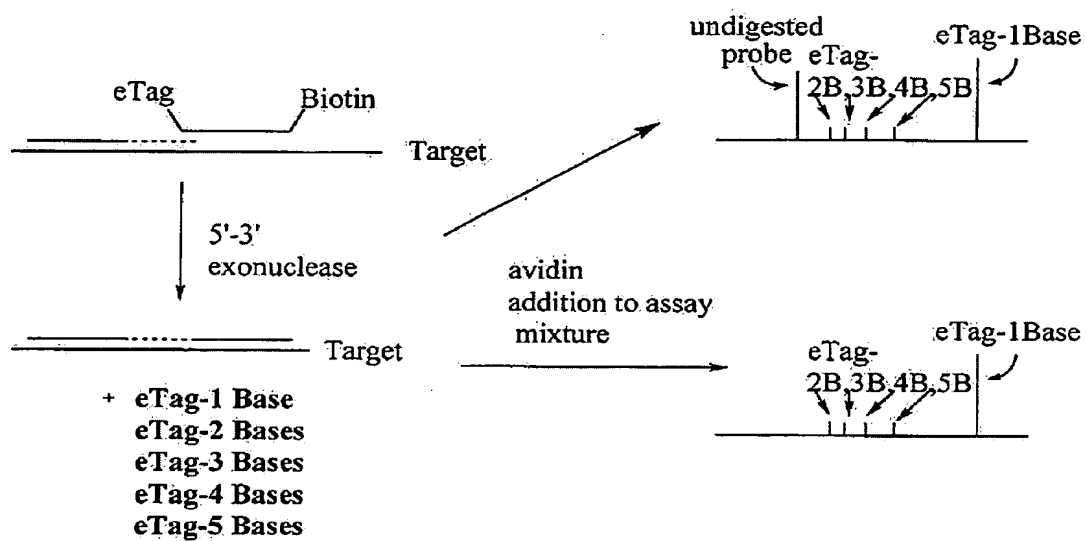


Fig. 3B

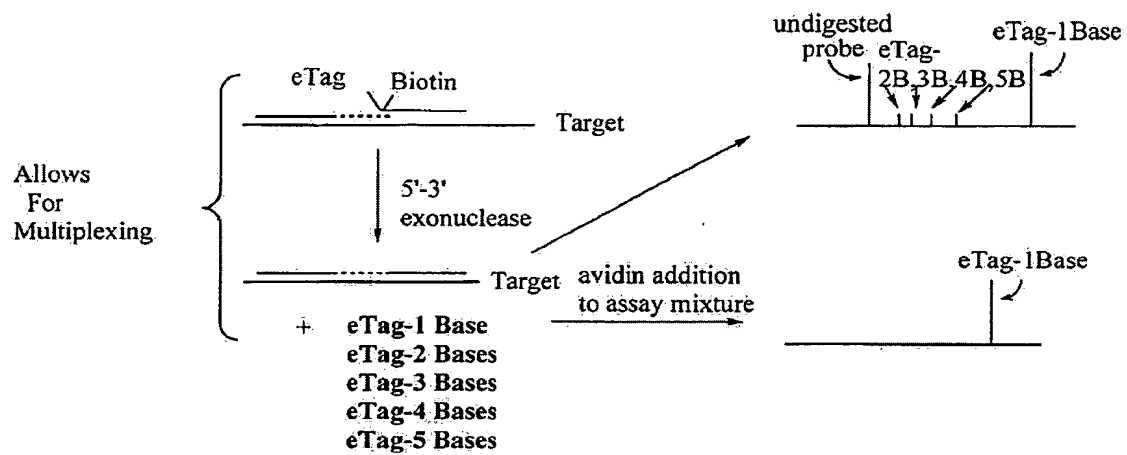


Fig. 3C

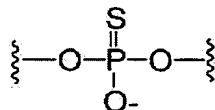


Fig. 3D

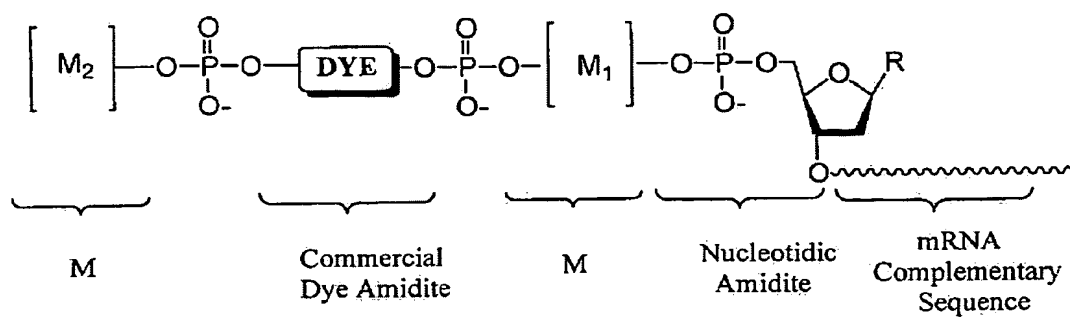


Fig. 4

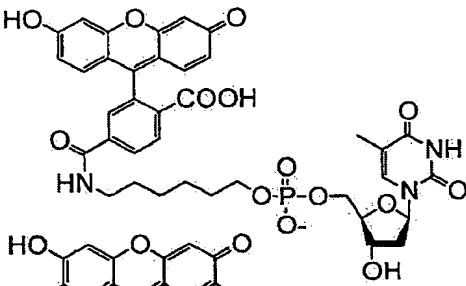
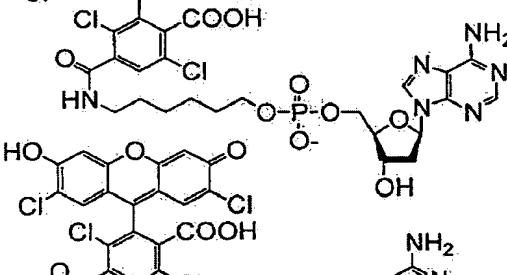
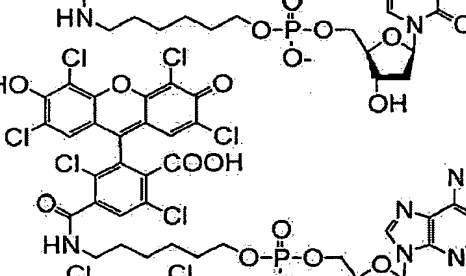
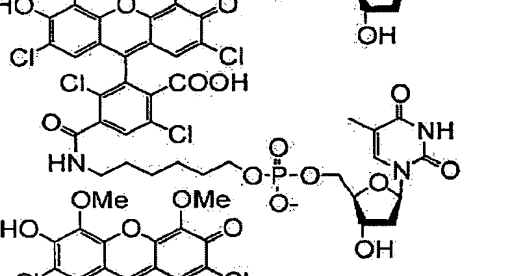
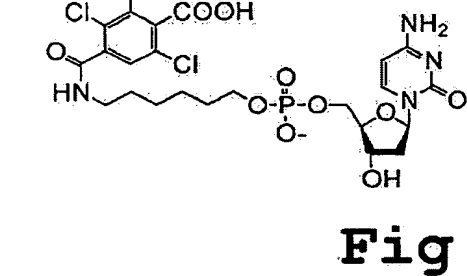

<u>e-tag Reporter</u>	<u>Elution Time on CE, min</u>	<u>Mass</u>
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	7.1	925
	7.3	901
	7.7	994
	8.0	985
	9.25	961

Fig. 5

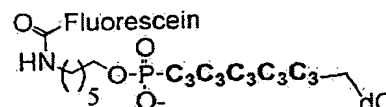
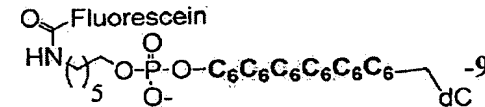
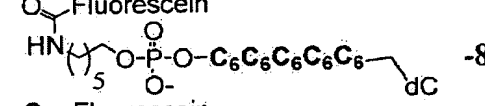
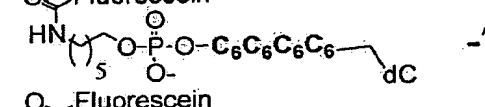
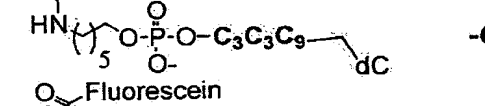
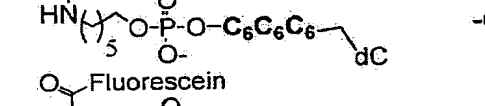
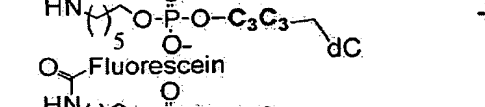
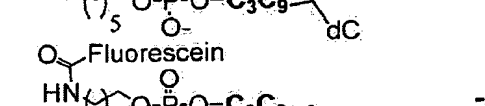
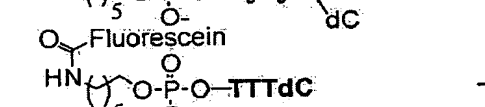
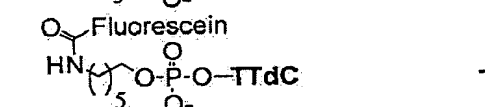
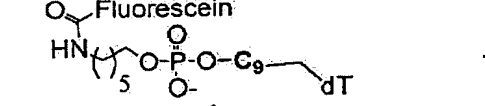
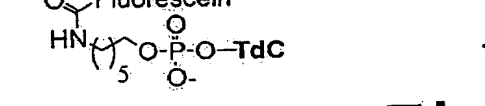

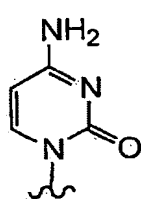
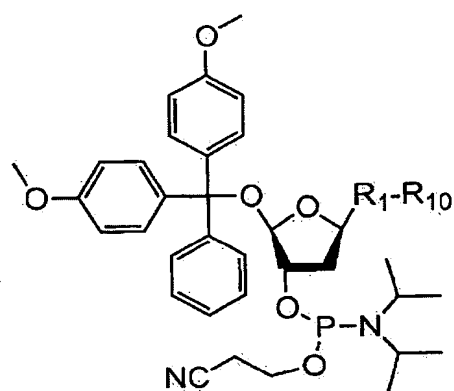
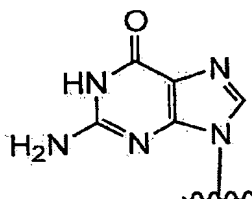
e-tag Reporter	Charge	Elution Time, min
	-8	12.1*
	-9	12.7
	-8	12.8
	-7	13.1
	-6	13.0
	-6	13.4
	-5	12.8*
	-5	13.2*
	-5	14.8
	-6	17.3
	-5	17.0
	-4	15.2*
	-4	16.5

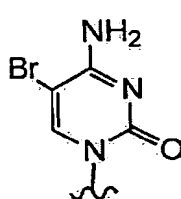
Fig. 6



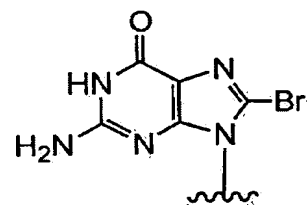
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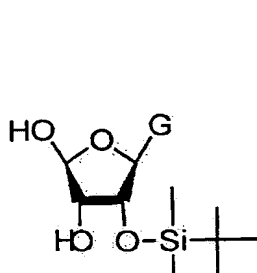
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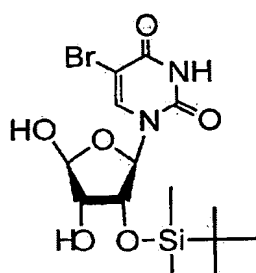
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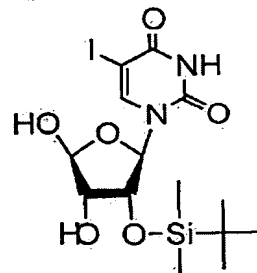
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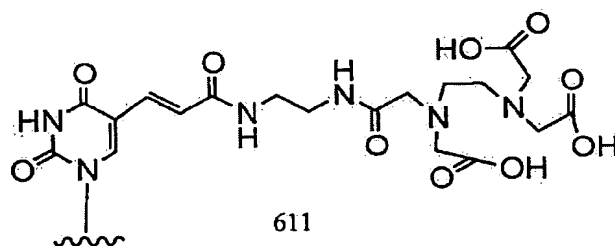
396



436



484



611

Fig. 7

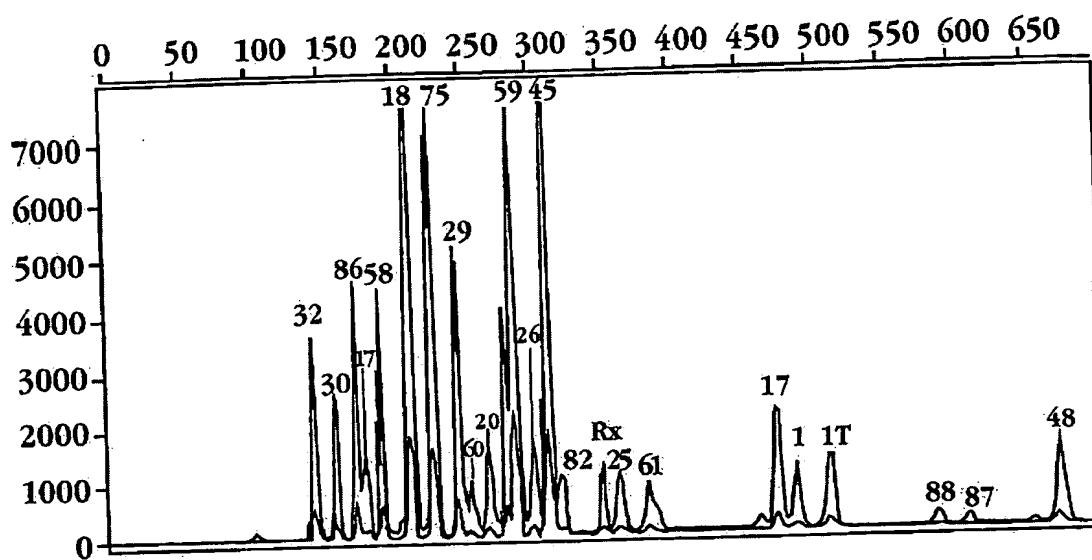


Fig. 8

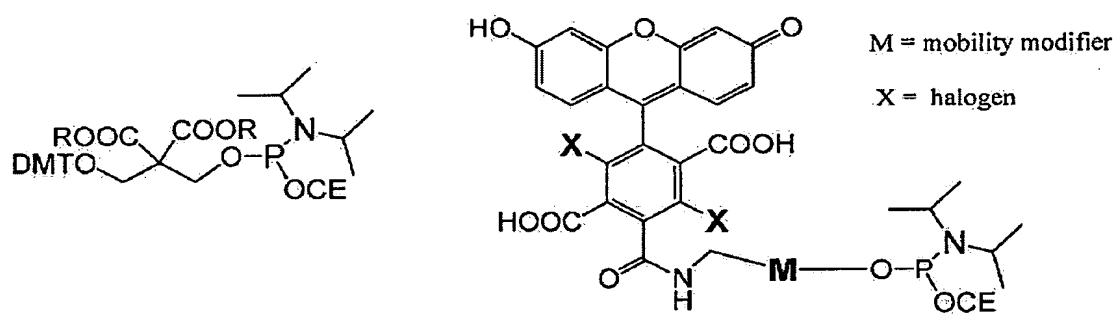


Fig. 9

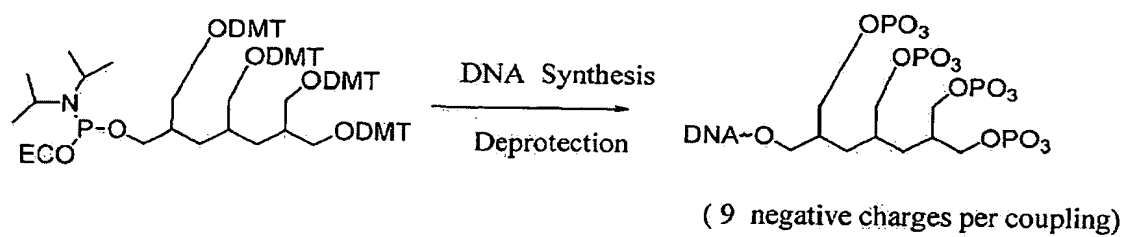


Fig. 10

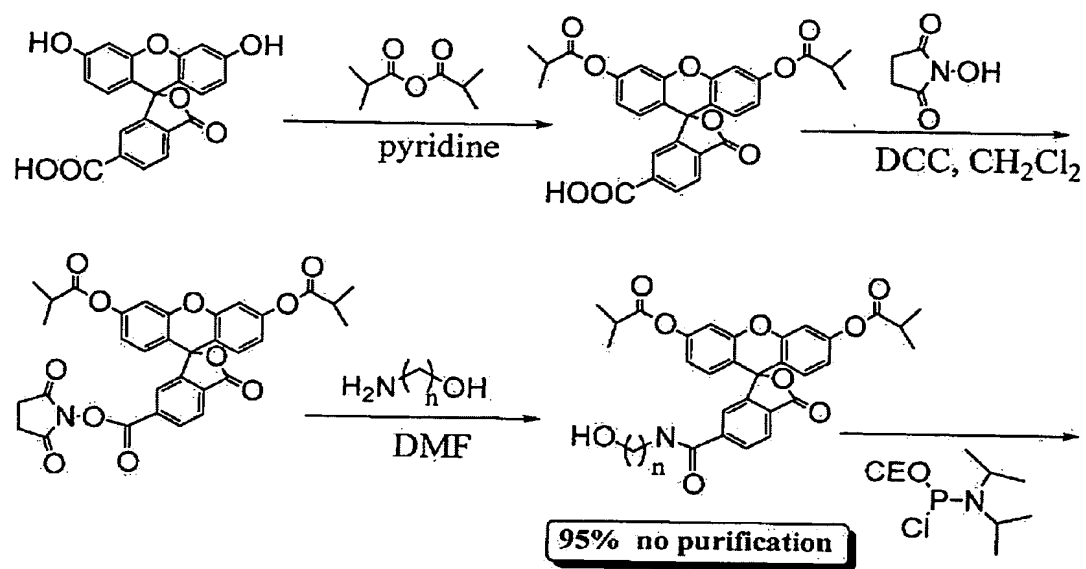


Fig. 11

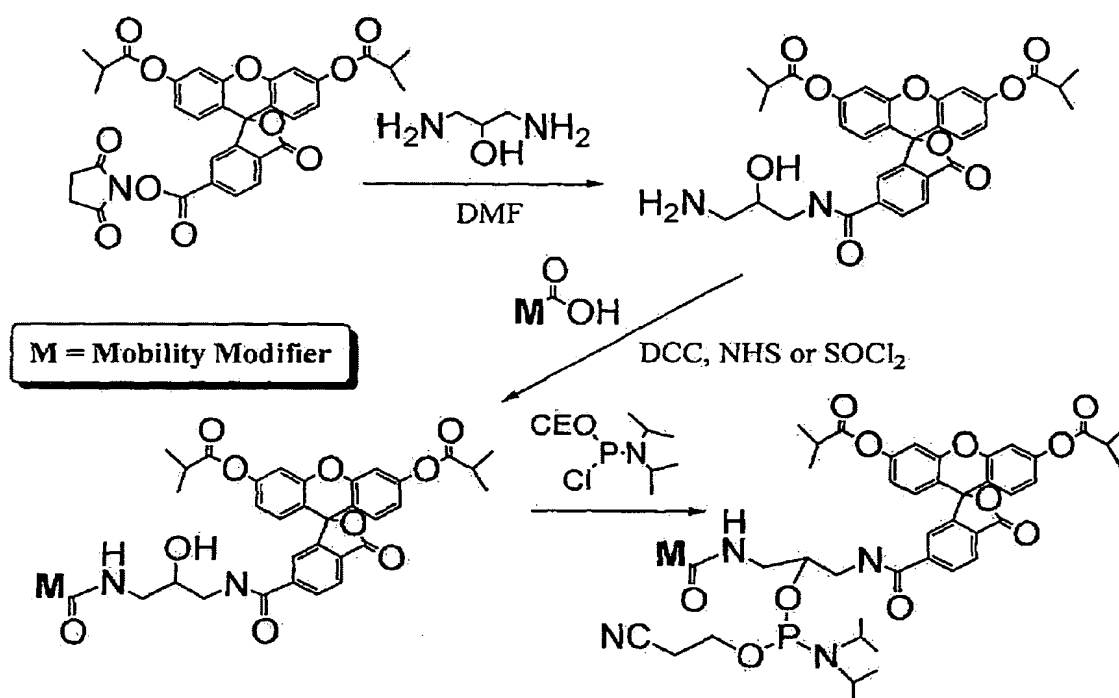


Fig. 12

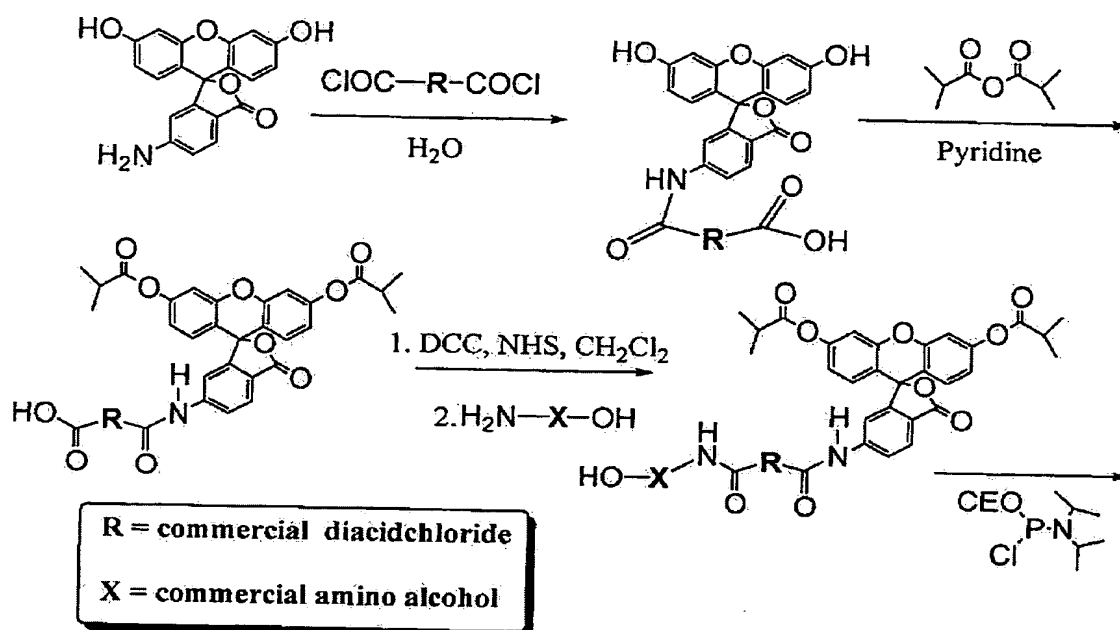


Fig. 13

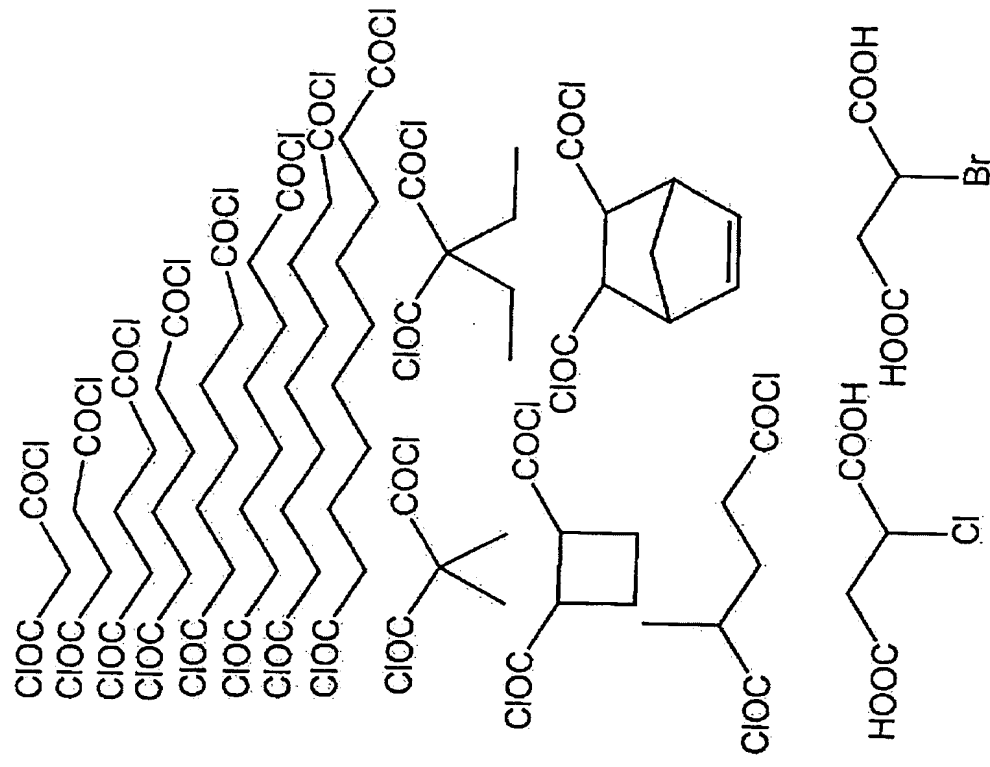


Fig. 14

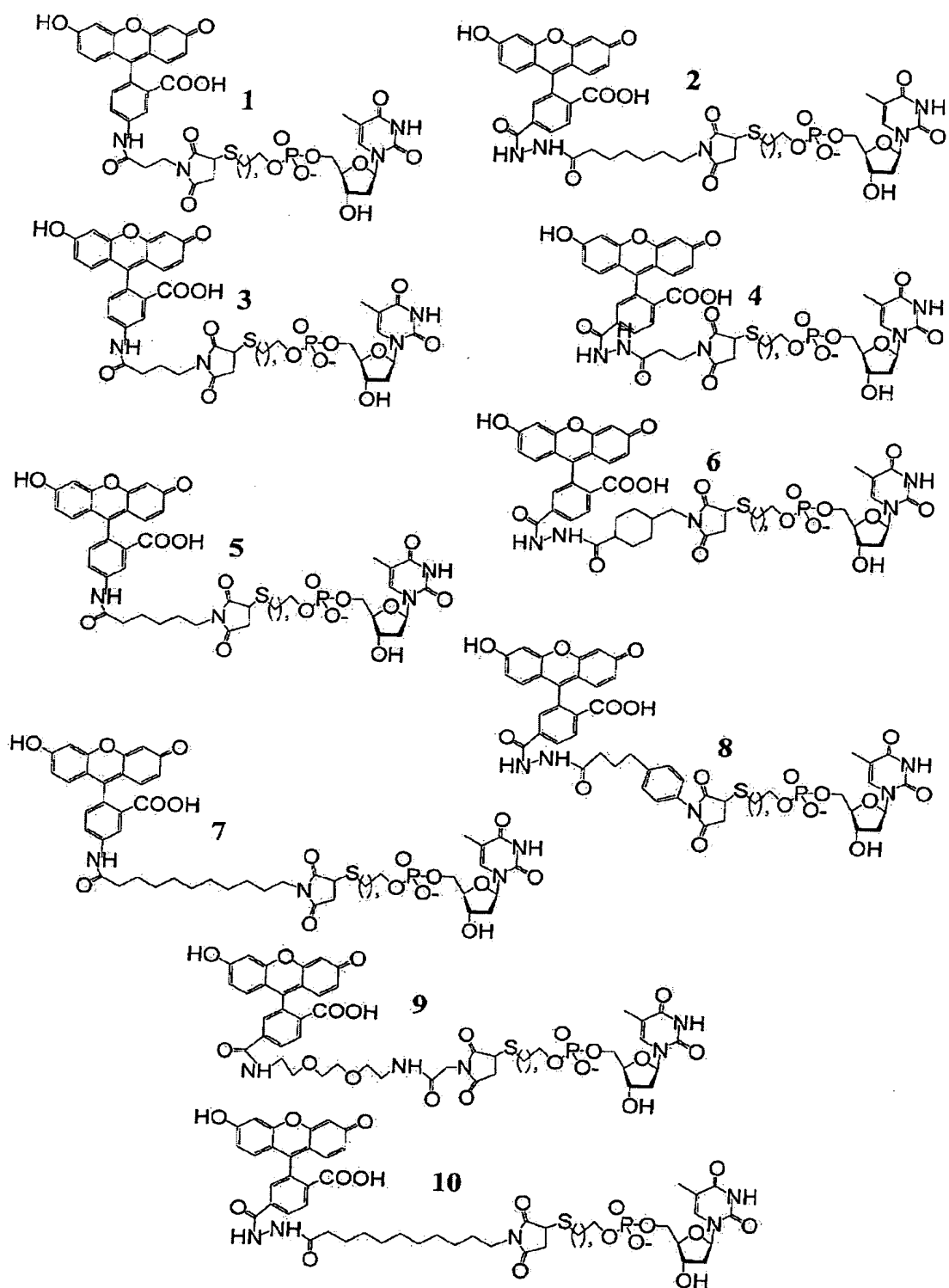


Fig. 15

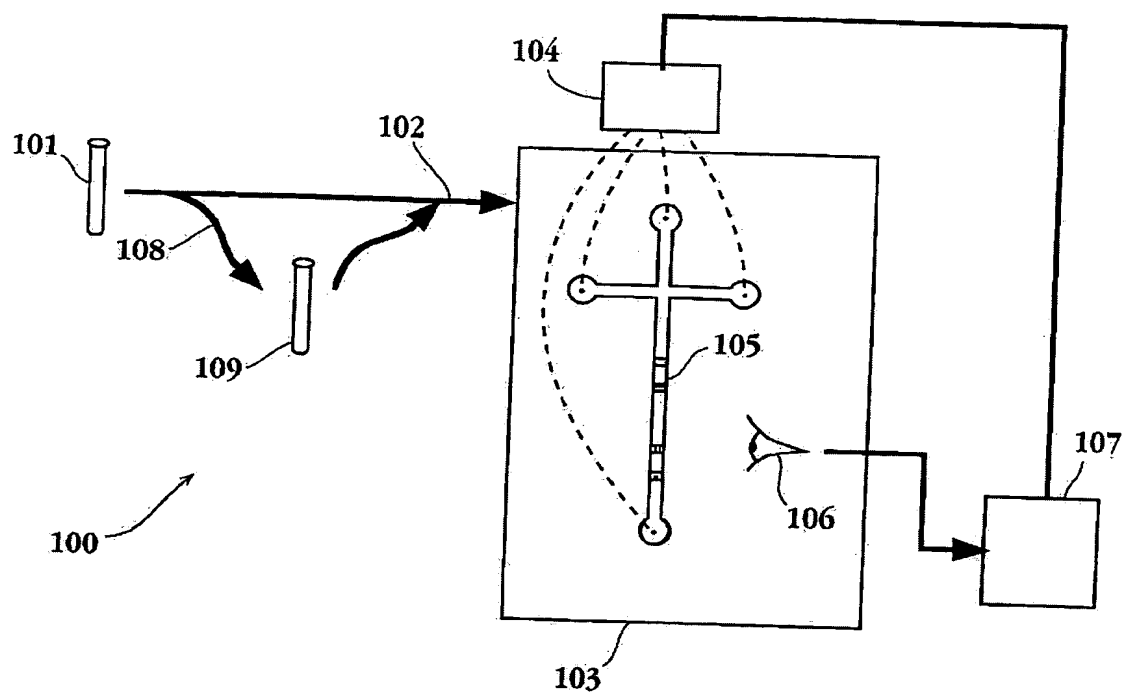
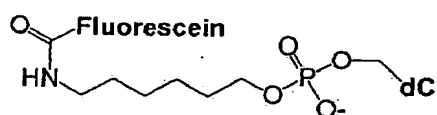
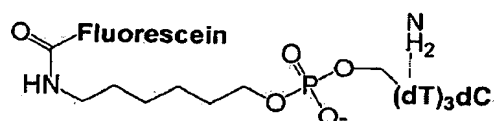


Fig. 16

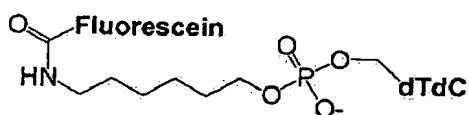
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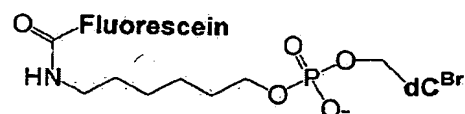
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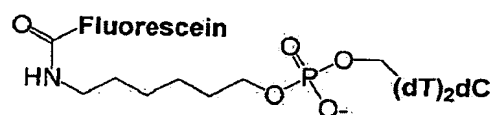
ACLA002



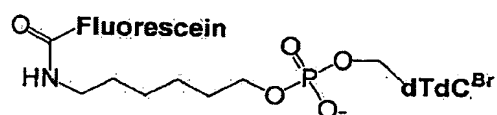
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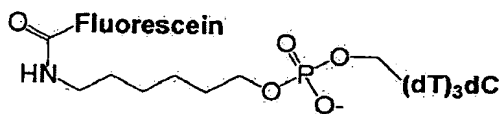
ACLA003



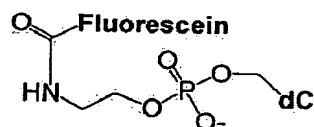
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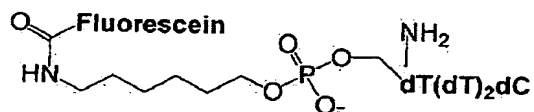
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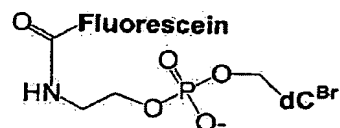
ACLA010



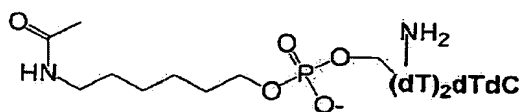
ACLA005



ACLA011



ACLA006



ACLA012

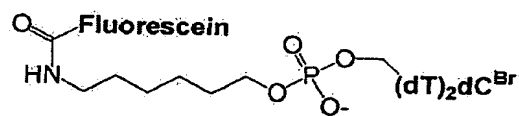


Fig. 17A

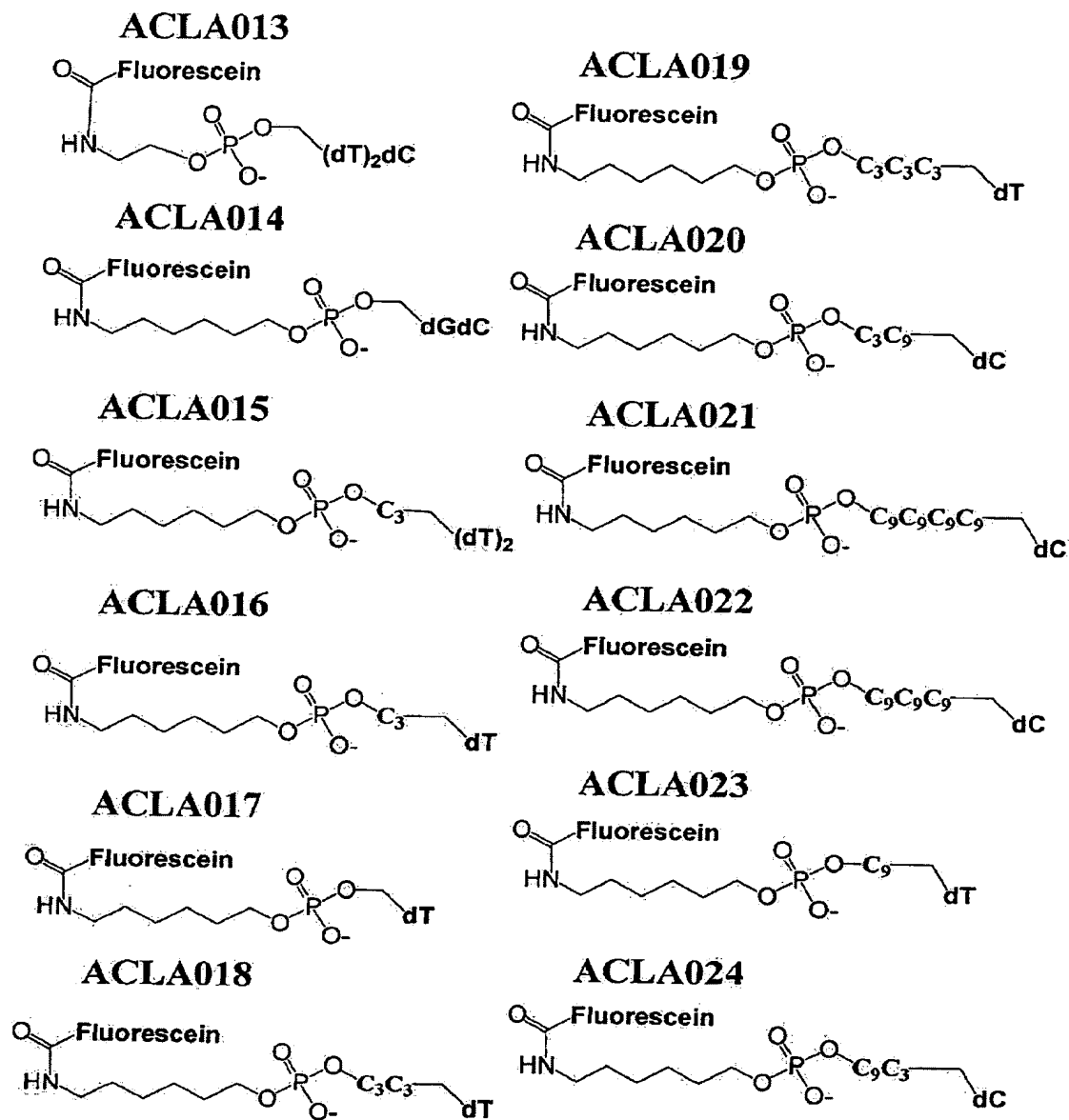


Fig. 17B

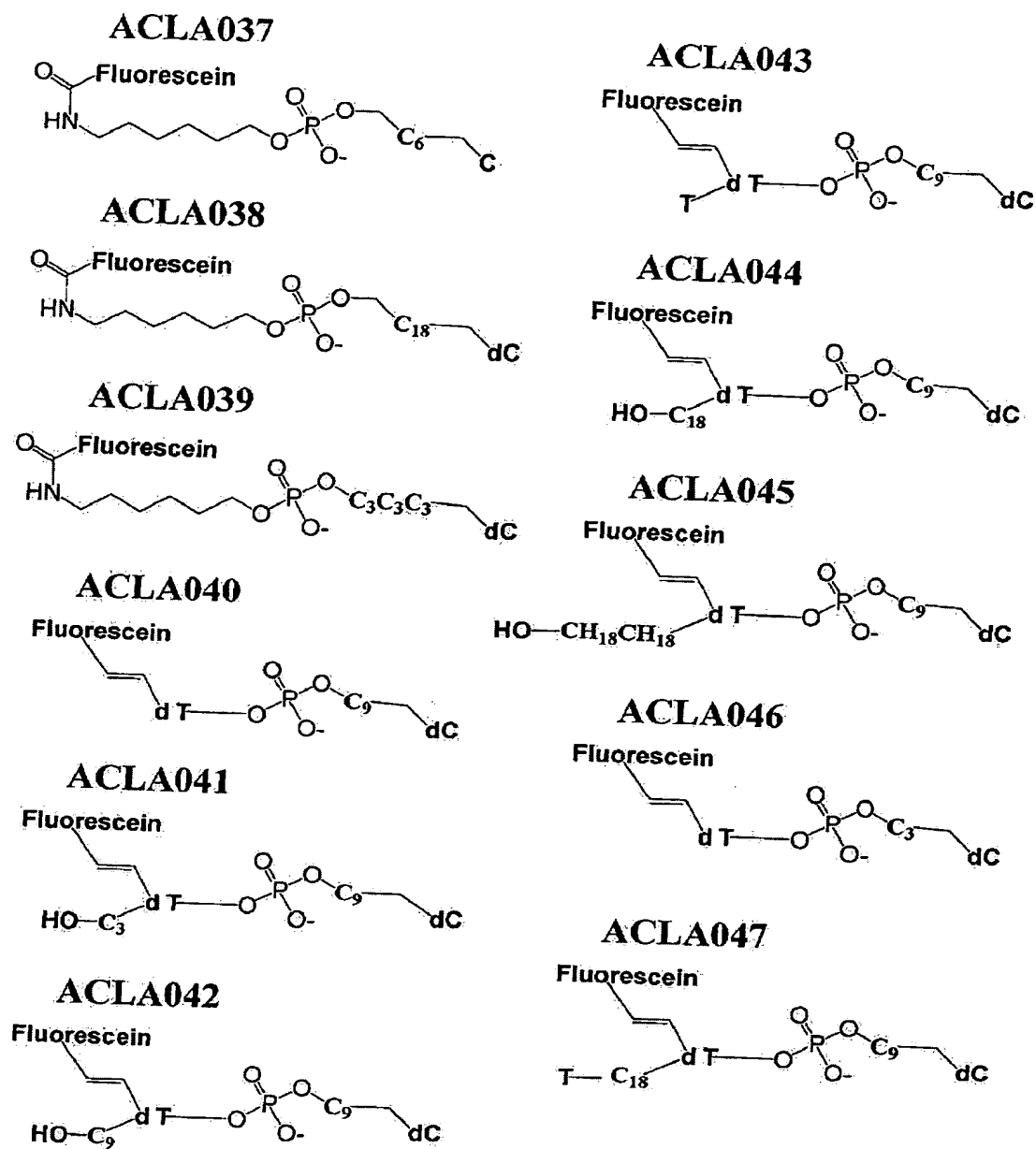


Fig. 17D

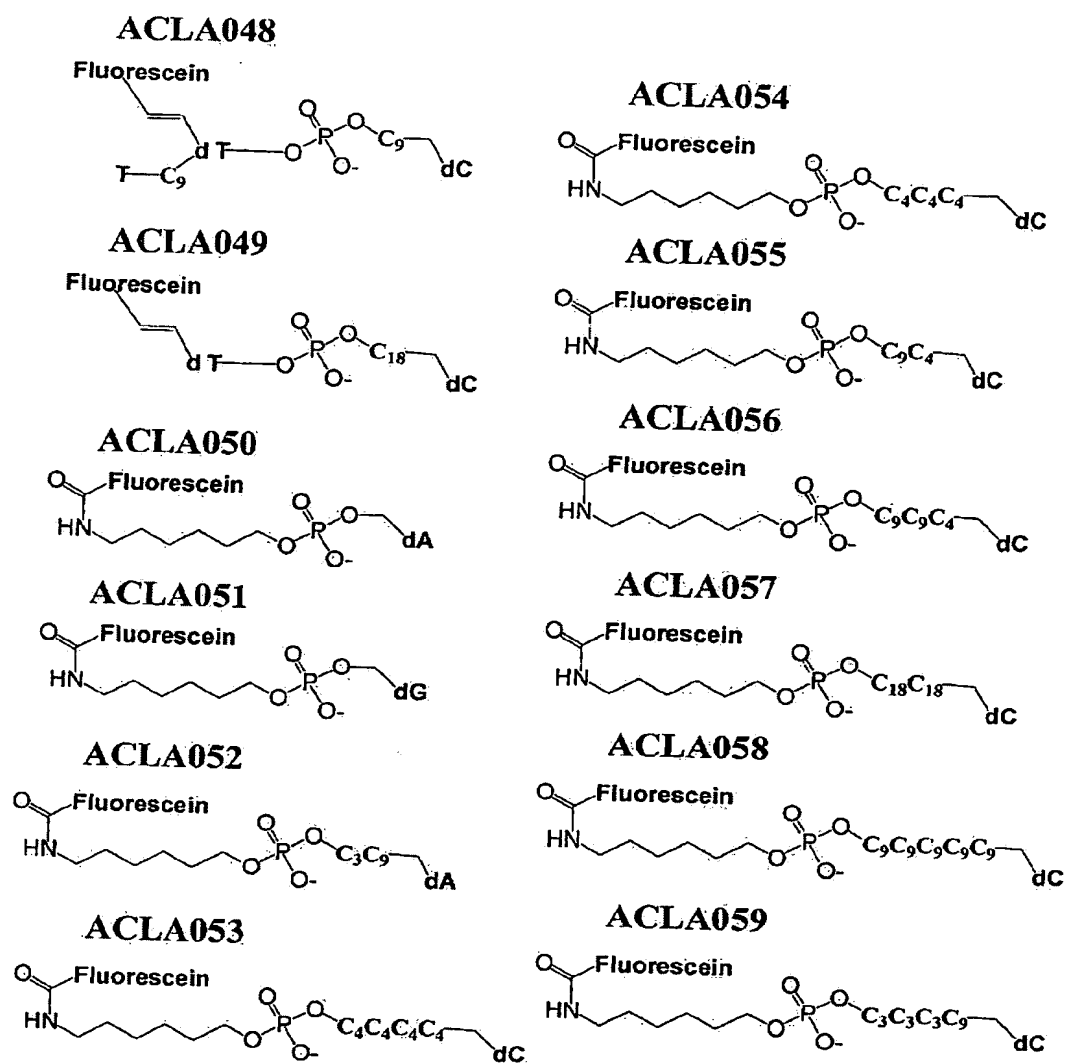


Fig. 17E

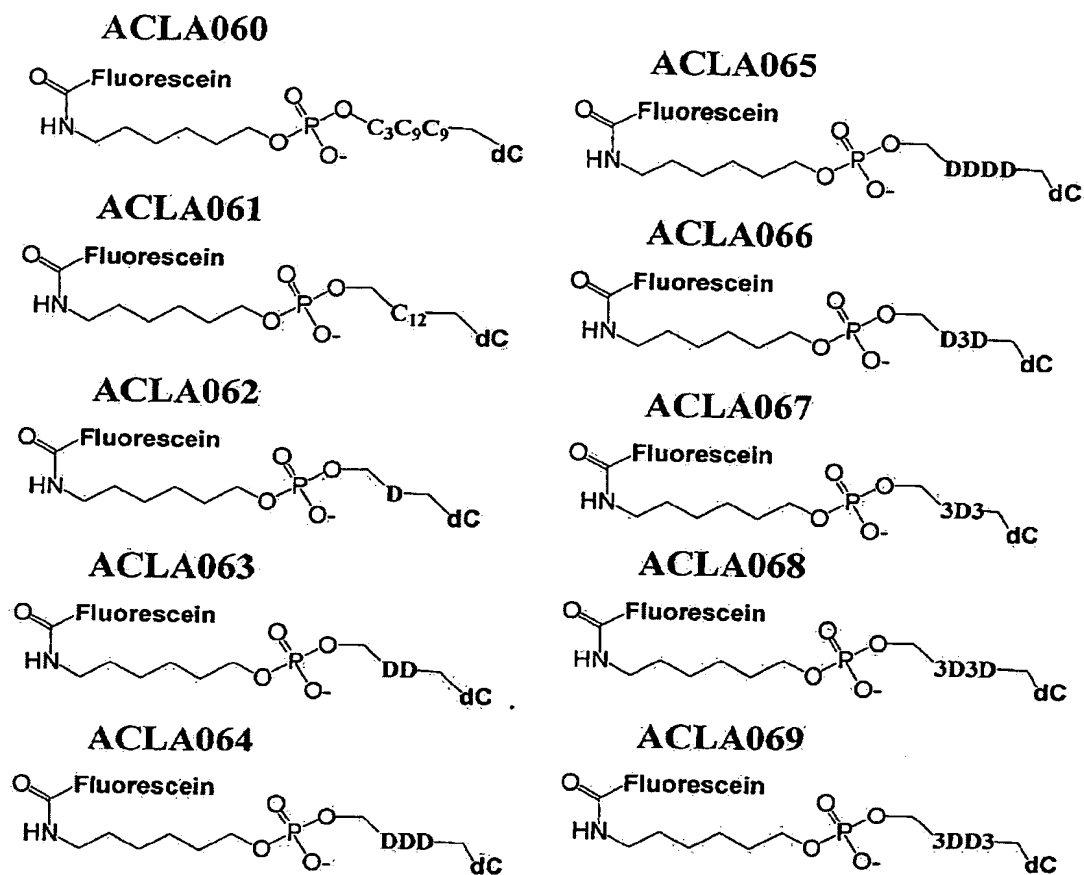


Fig. 17F

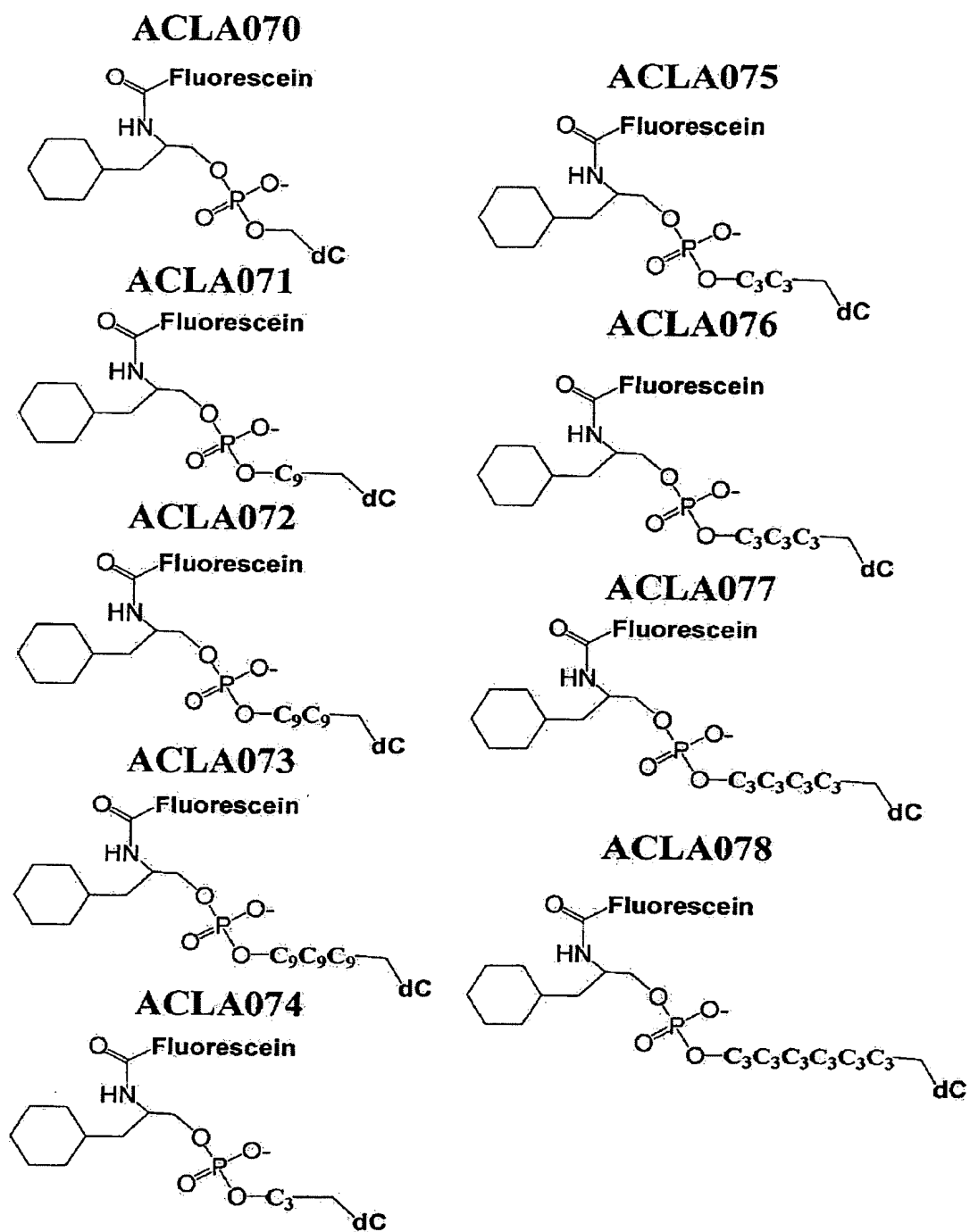


Fig. 17G

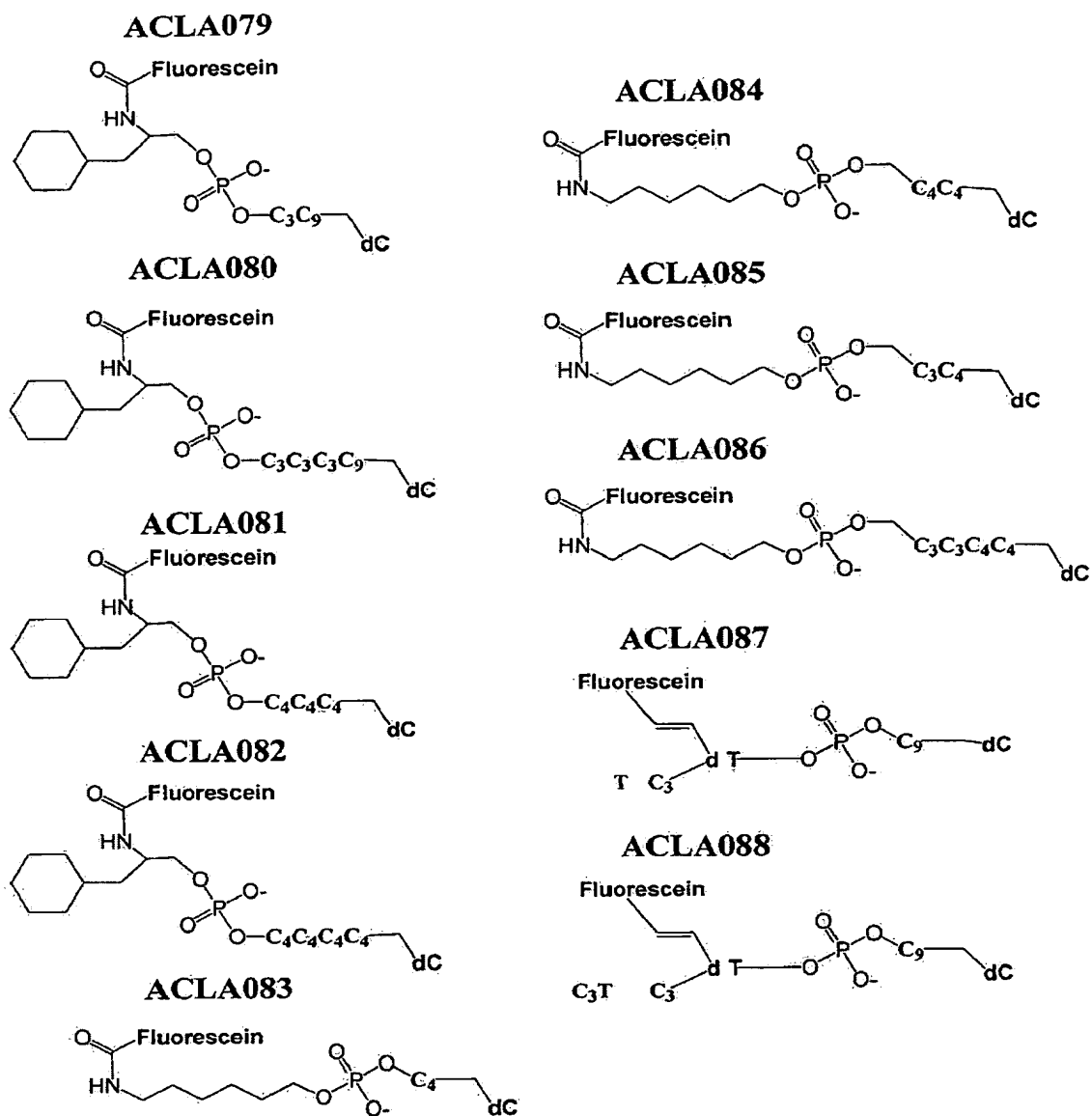


Fig. 17H

[illegible]Cc1ccc(cc1)C2=CC(=C(C=C2)C(=O)O)C3=CC(=C(C=C3)C(=O)O)C4=CC(=C(C=C4)C(=O)O)C5=CC(=C(C=C5)C(=O)O)C6=CC(=C(C=C6)C(=O)O)C7=CC(=C(C=C7)C(=O)O)C8=CC(=C(C=C8)C(=O)O)C9=CC(=C(C=C9)C(=O)O)C10=CC(=C(C=C10)C(=O)O)C11=CC(=C(C=C11)C(=O)O)C12=CC(=C(C=C12)C(=O)O)C13=CC(=C(C=C13)C(=O)O)C14=CC(=C(C=C14)C(=O)O)C15=CC(=C(C=C15)C(=O)O)C16=CC(=C(C=C16)C(=O)O)C17=CC(=C(C=C17)C(=O)O)C18=CC(=C(C=C18)C(=O)O)C19=CC(=C(C=C19)C(=O)O)C20=CC(=C(C=C20)C(=O)O)C21=CC(=C(C=C21)C(=O)O)C22=CC(=C(C=C22)C(=O)O)C23=CC(=C(C=C23)C(=O)O)C24=CC(=C(C=C24)C(=O)O)C25=CC(=C(C=C25)C(=O)O)C26=CC(=C(C=C26)C(=O)O)C27=CC(=C(C=C27)C(=O)O)C28=CC(=C(C=C28)C(=O)O)C29=CC(=C(C=C29)C(=O)O)C30=CC(=C(C=C30)C(=O)O)C31=CC(=C(C=C31)C(=O)O)C32=CC(=C(C=C32)C(=O)O)C33=CC(=C(C=C33)C(=O)O)C34=CC(=C(C=C34)C(=O)O)C35=CC(=C(C=C35)C(=O)O)C36=CC(=C(C=C36)C(=O)O)C37=CC(=C(C=C37)C(=O)O)C38=CC(=C(C=C38)C(=O)O)C39=CC(=C(C=C39)C(=O)O)C40=CC(=C(C=C40)C(=O)O)C41=CC(=C(C=C41)C(=O)O)C42=CC(=C(C=C42)C(=O)O)C43=CC(=C(C=C43)C(=O)O)C44=CC(=C(C=C44)C(=O)O)C45=CC(=C(C=C45)C(=O)O)C46=CC(=C(C=C46)C(=O)O)C47=CC(=C(C=C47)C(=O)O)C48=CC(=C(C=C48)C(=O)O)C49=CC(=C(C=C49)C(=O)O)C50=CC(=C(C=C50)C(=O)O)C51=CC(=C(C=C51)C(=O)O)C52=CC(=C(C=C52)C(=O)O)C53=CC(=C(C=C53)C(=O)O)C54=CC(=C(C=C54)C(=O)O)C55=CC(=C(C=C55)C(=O)O)C56=CC(=C(C=C56)C(=O)O)C57=CC(=C(C=C57)C(=O)O)C58=CC(=C(C=C58)C(=O)O)C59=CC(=C(C=C59)C(=O)O)C60=CC(=C(C=C60)C(=O)O)C61=CC(=C(C=C61)C(=O)O)C62=CC(=C(C=C62)C(=O)O)C63=CC(=C(C=C63)C(=O)O)C64=CC(=C(C=C64)C(=O)O)C65=CC(=C(C=C65)C(=O)O)C66=CC(=C(C=C66)C(=O)O)C67=CC(=C(C=C67)C(=O)O)C68=CC(=C(C=C68)C(=O)O)C69=CC(=C(C=C69)C(=O)O)C70=CC(=C(C=C70)C(=O)O)C71=CC(=C(C=C71)C(=O)O)C72=CC(=C(C=C72)C(=O)O)C73=CC(=C(C=C73)C(=O)O)C74=CC(=C(C=C74)C(=O)O)C75=CC(=C(C=C75)C(=O)O)C76=CC(=C(C=C76)C(=O)O)C77=CC(=C(C=C77)C(=O)O)C78=CC(=C(C=C78)C(=O)O)C79=CC(=C(C=C79)C(=O)O)C80=CC(=C(C=C80)C(=O)O)C81=CC(=C(C=C81)C(=O)O)C82=CC(=C(C=C82)C(=O)O)C83=CC(=C(C=C83)C(=O)O)C84=CC(=C(C=C84)C(=O)O)C85=CC(=C(C=C85)C(=O)O)C86=CC(=C(C=C86)C(=O)O)C87=CC(=C(C=C87)C(=O)O)C88=CC(=C(C=C88)C(=O)O)C89=CC(=C(C=C89)C(=O)O)C90=CC(=C(C=C90)C(=O)O)C91=CC(=C(C=C91)C(=O)O)C92=CC(=C(C=C92)C(=O)O)C93=CC(=C(C=C93)C(=O)O)C94=CC(=C(C=C94)C(=O)O)C95=CC(=C(C=C95)C(=O)O)C96=CC(=C(C=C96)C(=O)O)C97=CC(=C(C=C97)C(=O)O)C98=CC(=C(C=C98)C(=O)O)C99=CC(=C(C=C99)C(=O)O)C100=CC(=C(C=C100)C(=O)O)C101=CC(=C(C=C101)C(=O)O)C102=CC(=C(C=C102)C(=O)O)C103=CC(=C(C=C103)C(=O)O)C104=CC(=C(C=C104)C(=O)O)C105=CC(=C(C=C105)C(=O)O)C106=CC(=C(C=C106)C(=O)O)C107=CC(=C(C=C107)C(=O)O)C108=CC(=C(C=C108)C(=O)O)C109=CC(=C(C=C109)C(=O)O)C110=CC(=C(C=C110)C(=O)O)C111=CC(=C(C=C111)C(=O)O)C112=CC(=C(C=C112)C(=O)O)C113=CC(=C(C=C113)C(=O)O)C114=CC(=C(C=C114)C(=O)O)C115=CC(=C(C=C115)C(=O)O)C116=CC(=C(C=C116)C(=O)O)C117=CC(=C(C=C117)C(=O)O)C118=CC(=C(C=C118)C(=O)O)C119=CC(=C(C=C119)C(=O)O)C120=CC(=C(C=C120)C(=O)O)C121=CC(=C(C=C121)C(=O)O)C122=CC(=C(C=C122)C(=O)O)C123=CC(=C(C=C123)C(=O)O)C124=CC(=C(C=C124)C(=O)O)C125=CC(=C(C=C125)C(=O)O)C126=CC(=C(C=C126)C(=O)O)C127=CC(=C(C=C127)C(=O)O)C128=CC(=C(C=C128)C(=O)O)C129=CC(=C(C=C129)C(=O)O)C130=CC(=C(C=C130)C(=O)O)C131=CC(=C(C=C131)C(=O)O)C132=CC(=C(C=C132)C(=O)O)C133=CC(=C(C=C133)C(=O)O)C134=CC(=C(C=C134)C(=O)O)C135=CC(=C(C=C135)C(=O)O)C136=CC(=C(C=C136)C(=O)O)C137=CC(=C(C=C137)C(=O)O)C138=CC(=C(C=C138)C(=O)O)C139=CC(=C(C=C139)C(=O)O)C140=CC(=C(C=C140)C(=O)O)C141=CC(=C(C=C141)C(=O)O)C142=CC(=C(C=C142)C(=O)O)C143=CC(=C(C=C143)C(=O)O)C144=CC(=C(C=C144)C(=O)O)C145=CC(=C(C=C145)C(=O)O)C146=CC(=C(C=C146)C(=O)O)C147=CC(=C(C=C147)C(=O)O)C148=CC(=C(C=C148)C(=O)O)C149=CC(=C(C=C149)C(=O)O)C150=CC(=C(C=C150)C(=O)O)C151=CC(=C(C=C151)C(=O)O)C152=CC(=C(C=C152)C(=O)O)C153=CC(=C(C=C153)C(=O)O)C154=CC(=C(C=C154)C(=O)O)C155=CC(=C(C=C155)C(=O)O)C156=CC(=C(C=C156)C(=O)O)C157=CC(=C(C=C157)C(=O)O)C158=CC(=C(C=C158)C(=O)O)C159=CC(=C(C=C159)C(=O)O)C160=CC(=C(C=C160)C(=O)O)C161=CC(=C(C=C161)C(=O)O)C162=CC(=C(C=C162)C(=O)O)C163=CC(=C(C=C163)C(=O)O)C164=CC(=C(C=C164)C(=O)O)C165=CC(=C(C=C165)C(=O)O)C166=CC(=C(C=C166)C(=O)O)C167=CC(=C(C=C167)C(=O)O)C168=CC(=C(C=C168)C(=O)O)C169=CC(=C(C=C169)C(=O)O)C170=CC(=C(C=C170)C(=O)O)C171=CC(=C(C=C171)C(=O)O)C172=CC(=C(C=C172)C(=O)O)C173=CC(=C(C=C173)C(=O)O)C174=CC(=C(C=C174)C(=O)O)C175=CC(=C(C=C175)C(=O)O)C176=CC(=C(C=C176)C(=O)O)C177=CC(=C(C=C177)C(=O)O)C178=CC(=C(C=C178)C(=O)O)C179=CC(=C(C=C179)C(=O)O)C180=CC(=C(C=C180)C(=O)O)C181=CC(=C(C=C181)C(=O)O)C182=CC(=C(C=C182)C(=O)O)C183=CC(=C(C=C183)C(=O)O)C184=CC(=C(C=C184)C(=O)O)C185=CC(=C(C=C185)C(=O)O)C186=CC(=C(C=C186)C(=O)O)C187=CC(=C(C=C187)C(=O)O)C188=CC(=C(C=C188)C(=O)O)C189=CC(=C(C=C189)C(=O)O)C190=CC(=C(C=C190)C(=O)O)C191=CC(=C(C=C191)C(=O)O)C192=CC(=C(C=C192)C(=O)O)C193=CC(=C(C=C193)C(=O)O)C194=CC(=C(C=C194)C(=O)O)C195=CC(=C(C=C195)C(=O)O)C196=CC(=C(C=C196)C(=O)O)C197=CC(=C

Fluorescein

$C_{12}T$ — dT — O — P(=O)(O⁻) — O — C₉ — dC

O=C1C=CC(=C2C=CC(=C(C=C2)COP(=O)([O-])OC3CCCCCCCCC3)C4=CC=CC=C4)C=C1

Fluorescein

TC₁₂TC₁₂

dT

P

O⁻

O

C₉

dC

Fluorescein

C_{12} C_{12} d T O P O^- O C_9 d C

O=C(NCc1ccccc1)COP(=O)([O-])OCCO=C1C(=O)c2cc3cc(C(=O)NCCc4ccccc4)cc3cc2C1=O

Chemical structure of the fluorescent lipid probe: 1,3-bis(sn-3'-phosphatidyl)-sn-glycerol-3-O-Fluorescein (BODIPY-PC). The structure shows a benzyl group attached to a glycerol backbone, which is linked to a phosphate group, and finally to a long alkyl chain (C₁₂) labeled 'dC'.

Fig. 17I

[illegible]

Fig. 17J

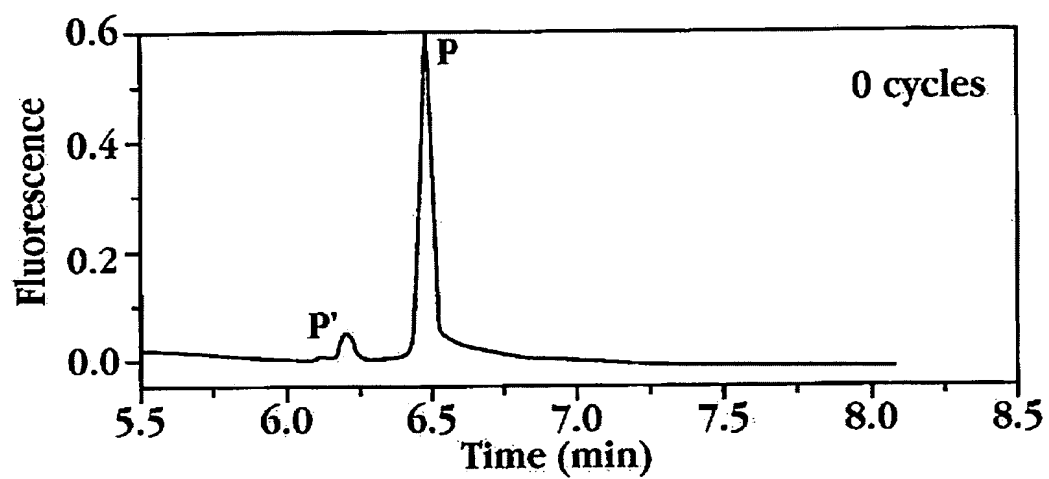


Fig. 18A

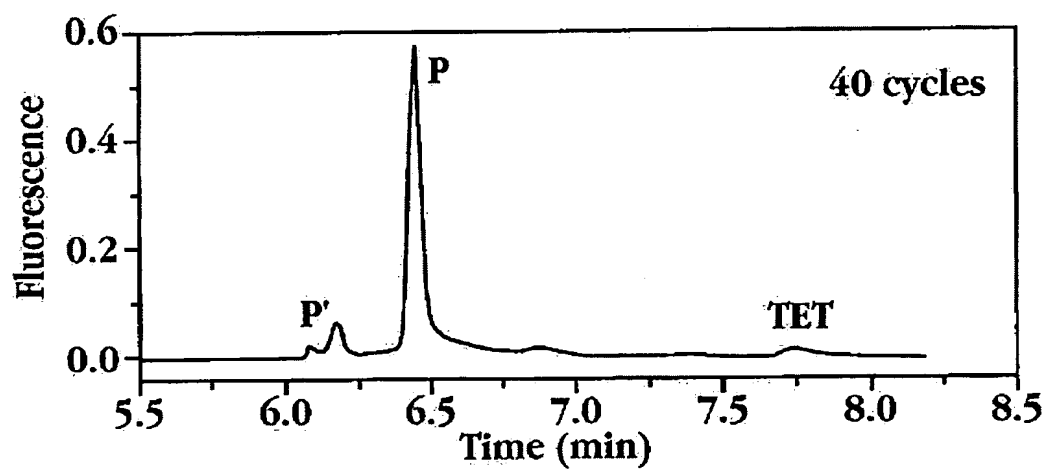


Fig. 18B

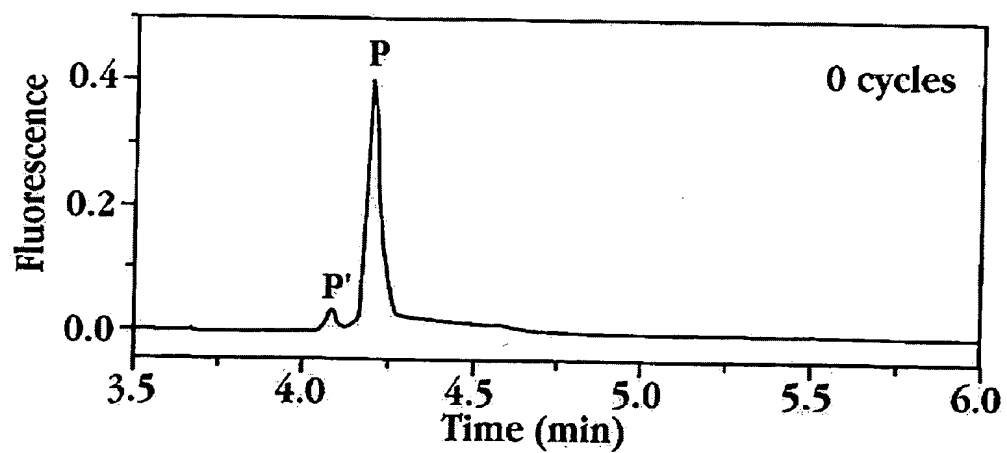


Fig. 19A

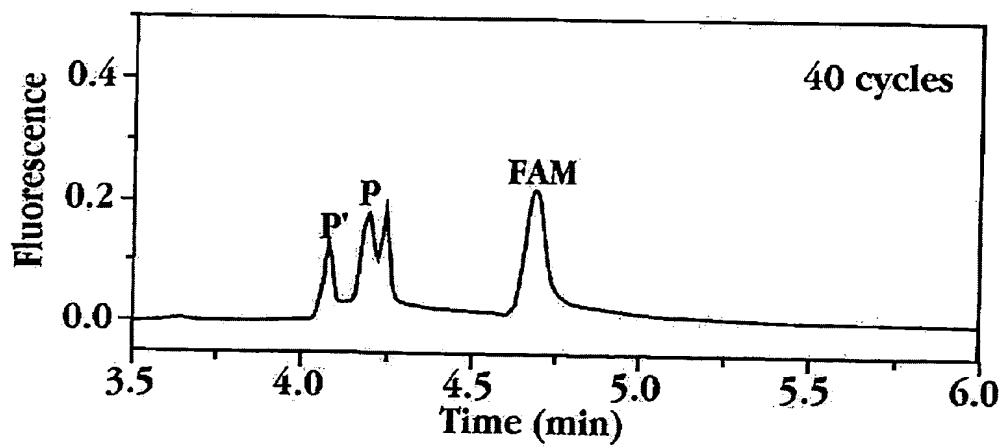


Fig. 19B

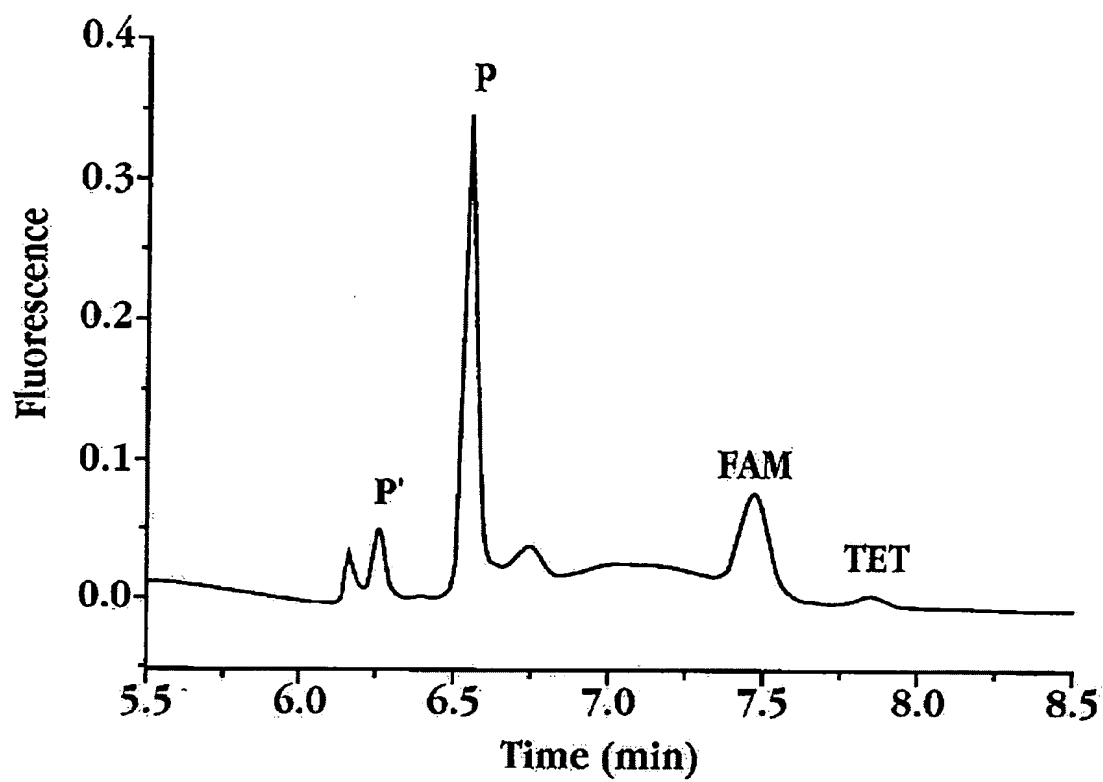


Fig. 20

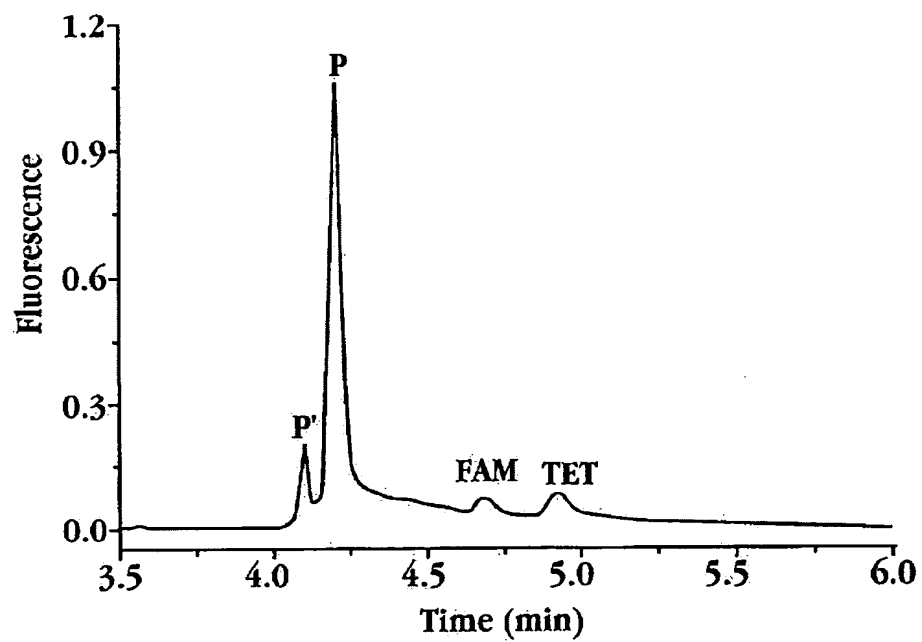


Fig. 21

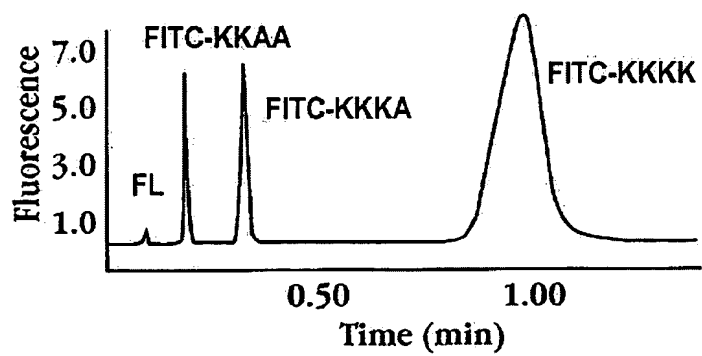


Fig. 22

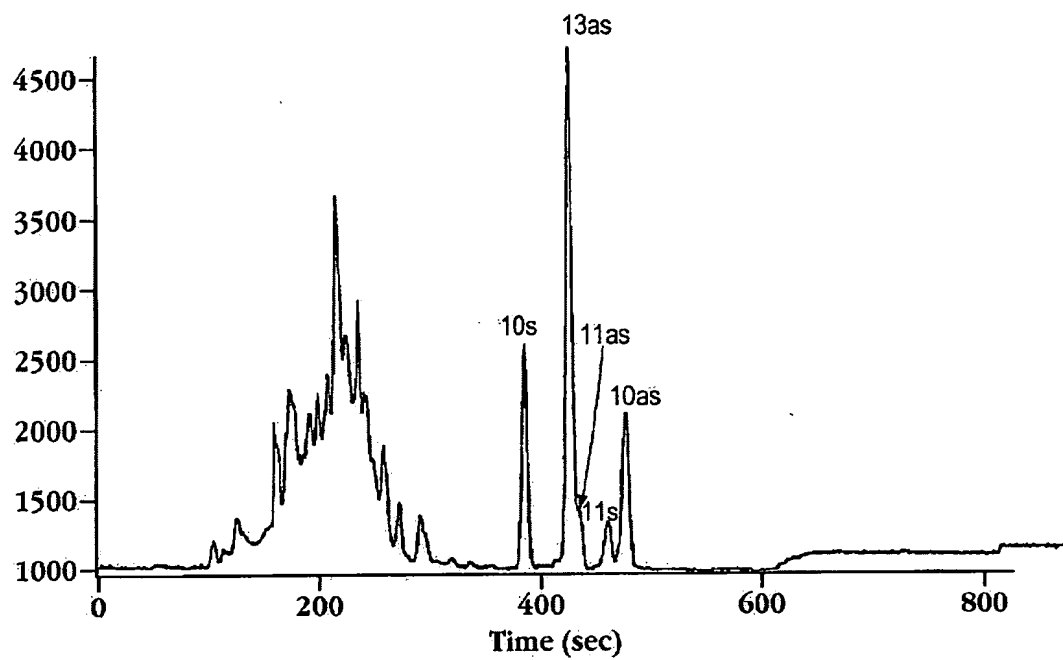


Fig. 23A

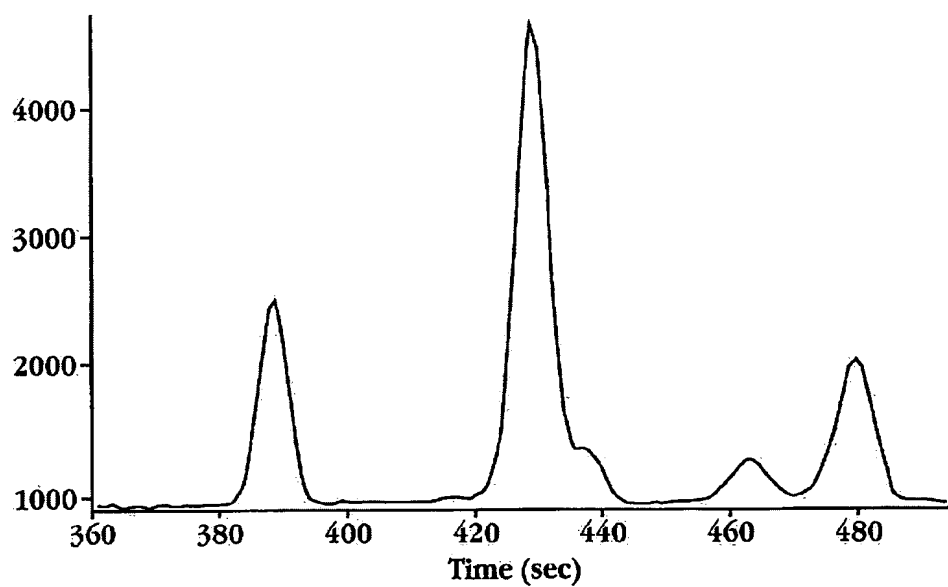


Fig. 23B

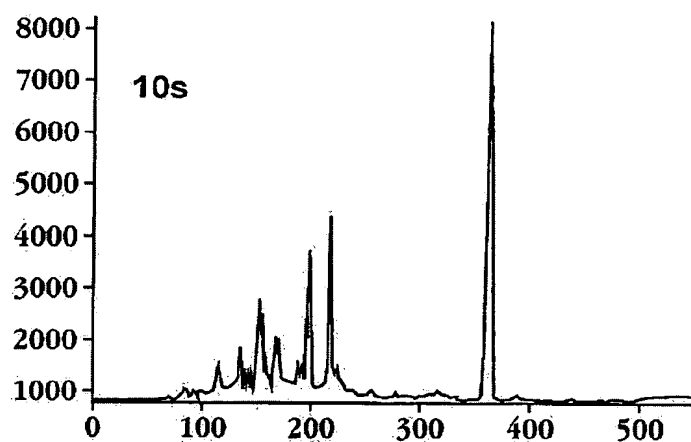


Fig. 23C

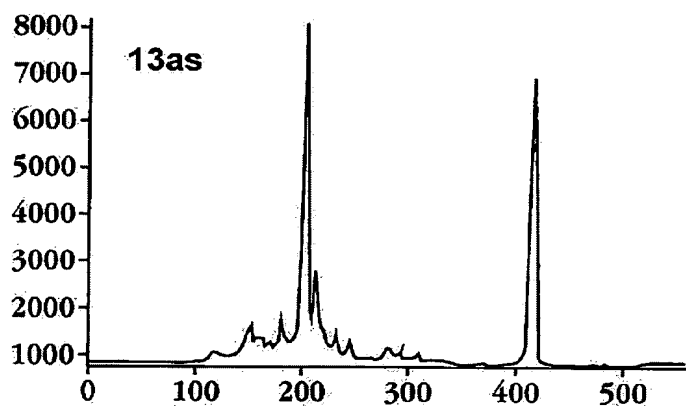


Fig. 23D

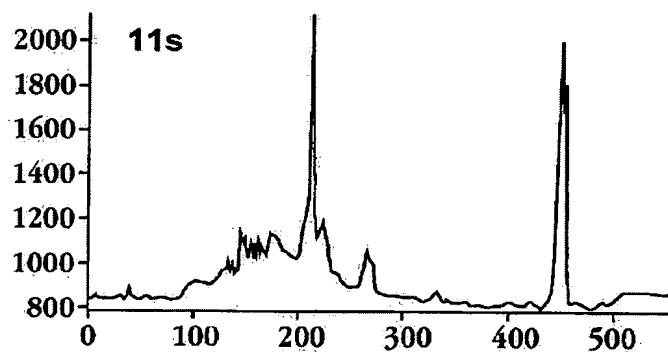


Fig. 23E

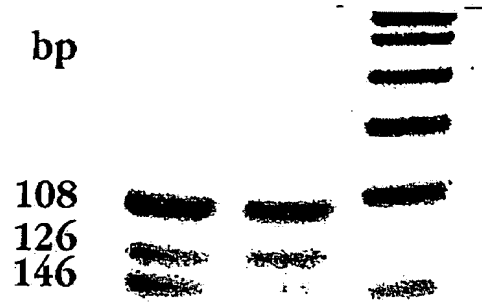


Fig. 23F

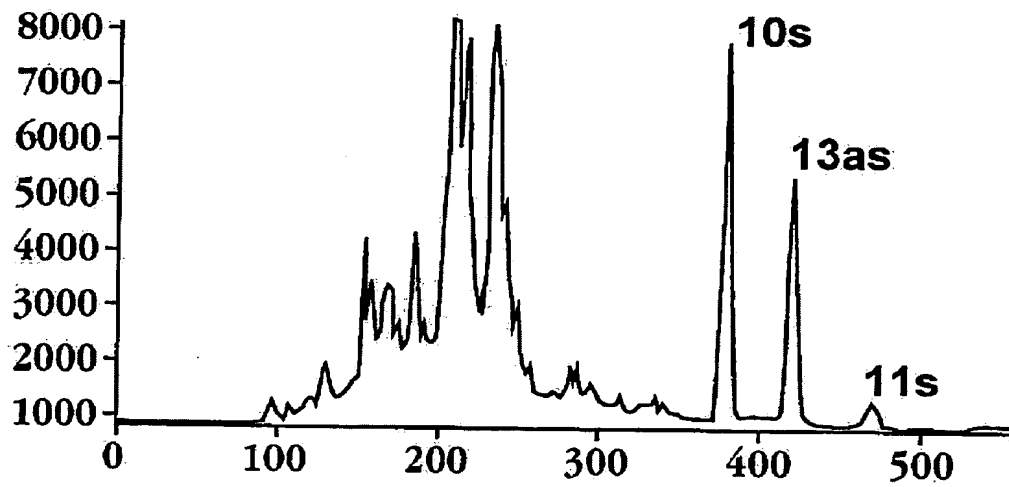


Fig. 23G

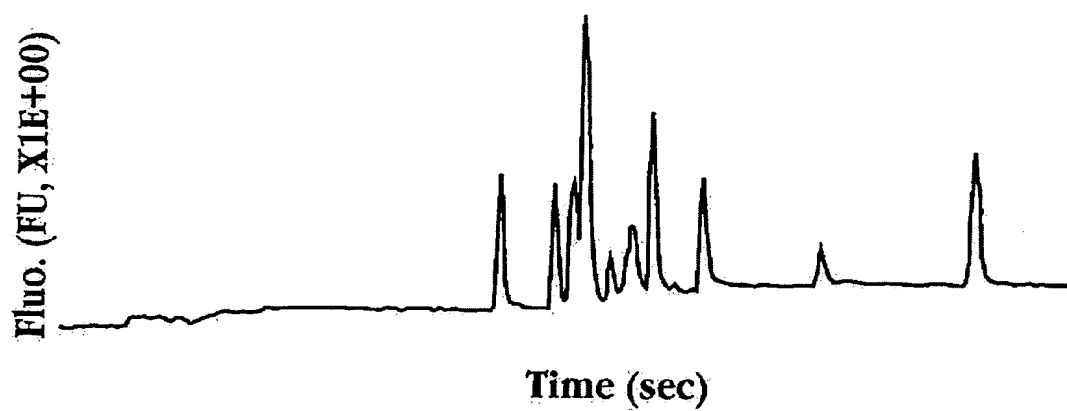


Fig. 24

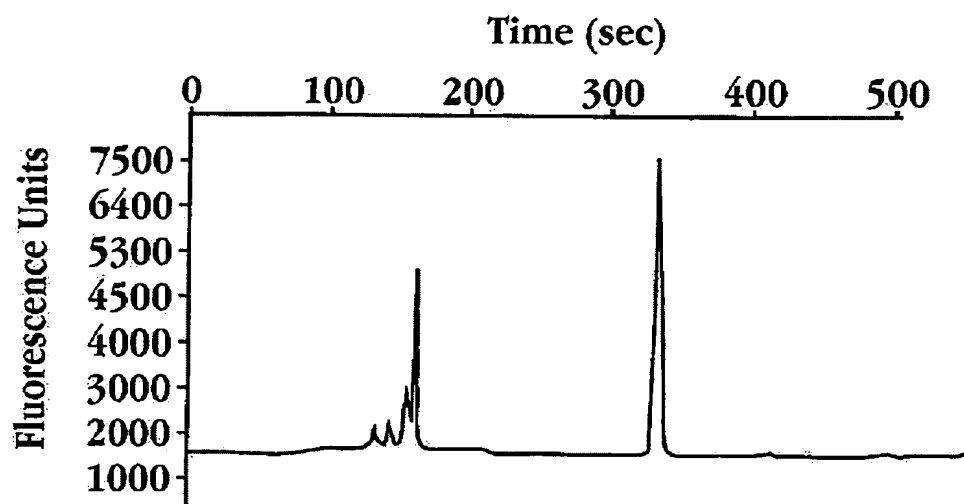


Fig. 25A

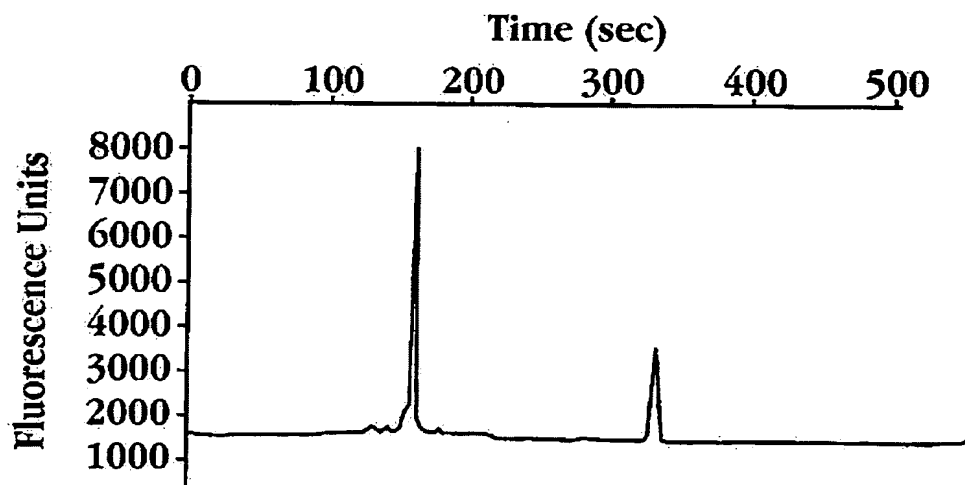


Fig. 25B

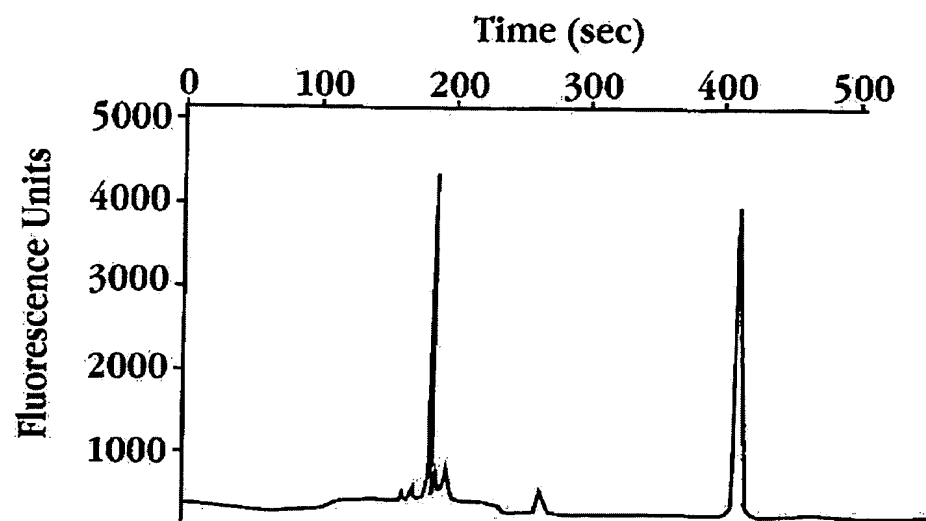


Fig. 25C

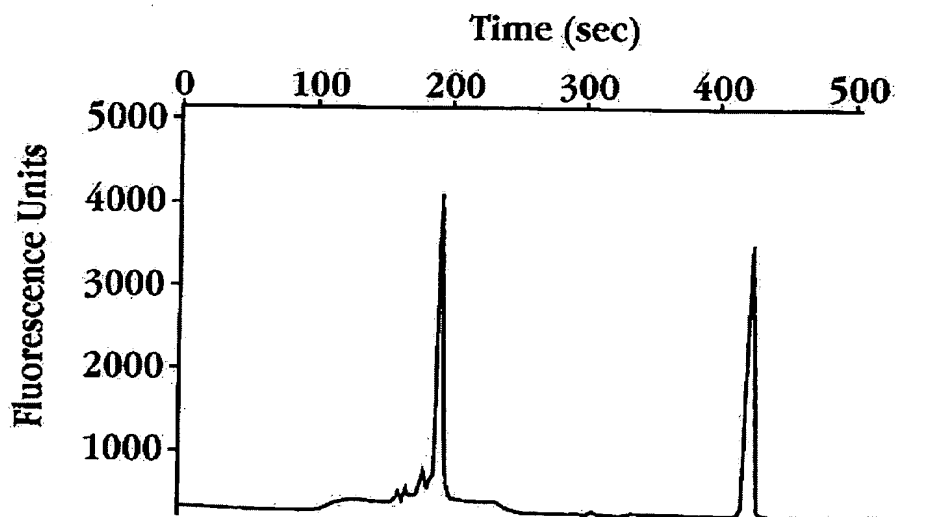


Fig. 25D

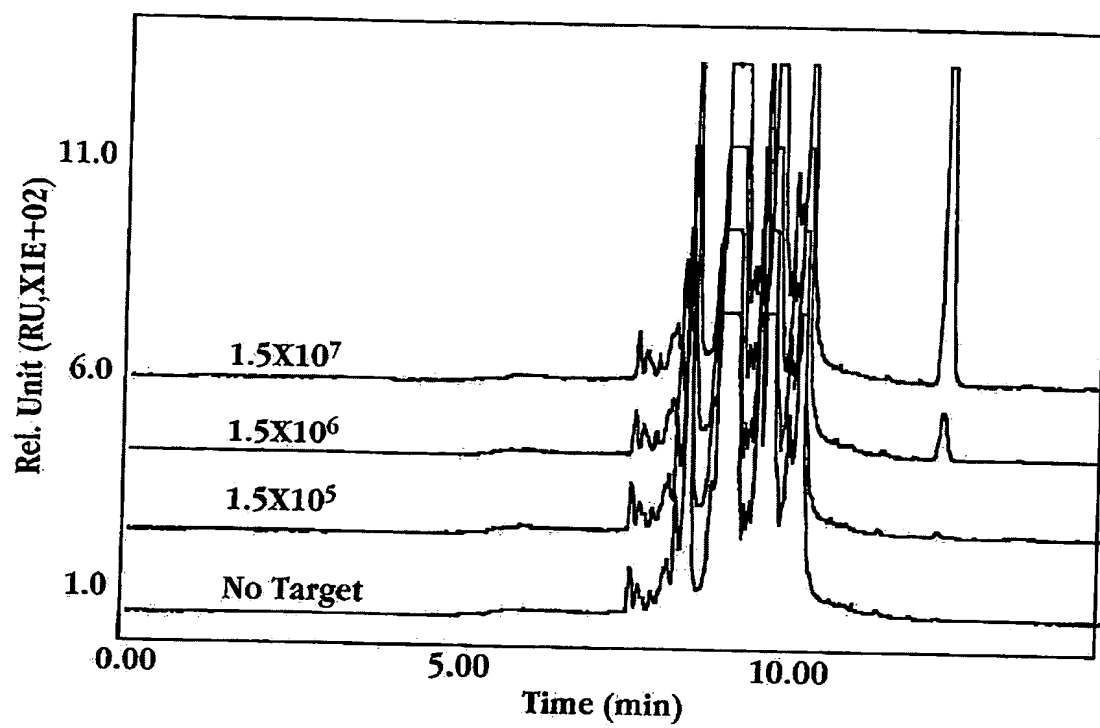


Fig. 26

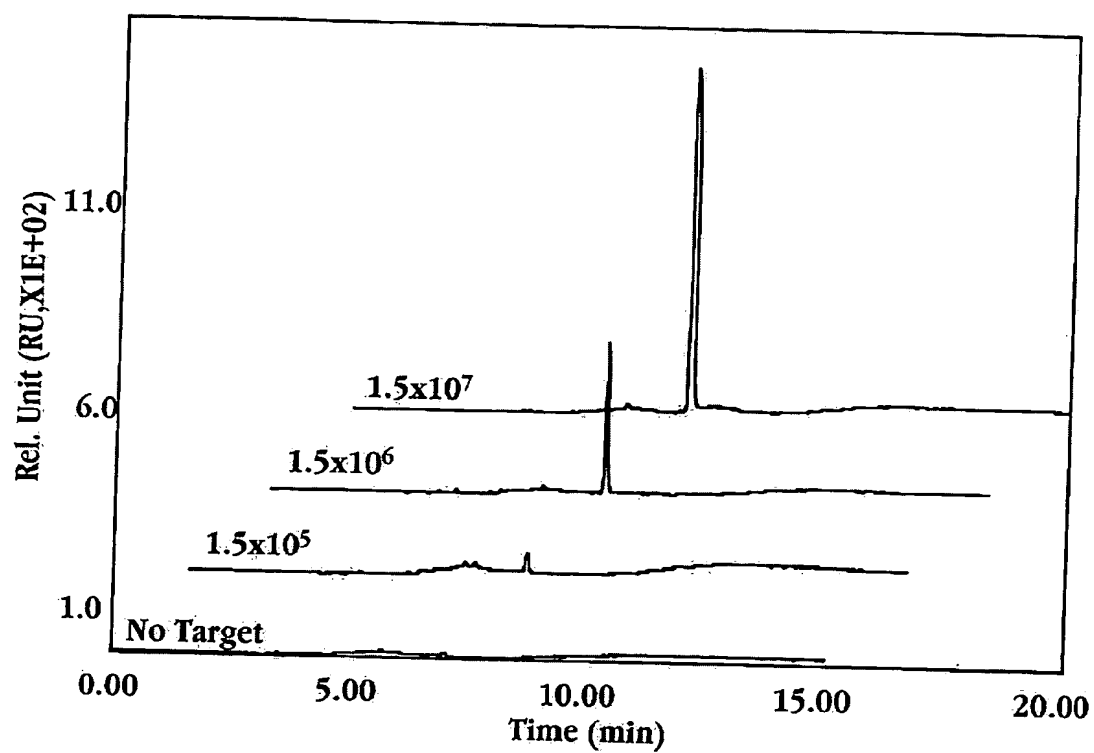


Fig. 27

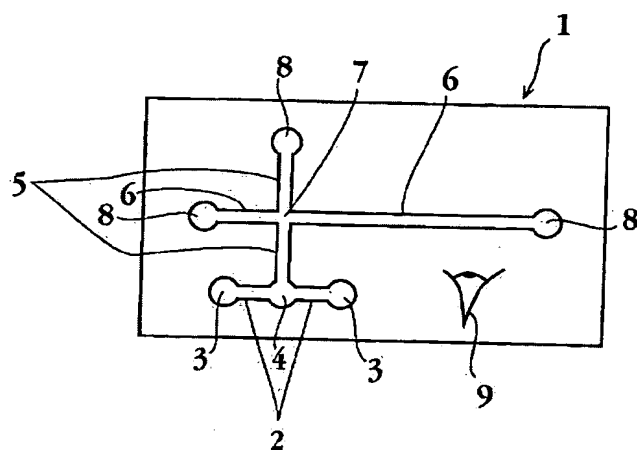


Fig. 28A

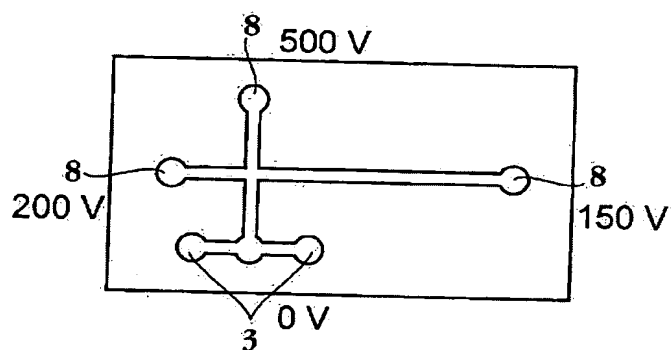


Fig. 28B

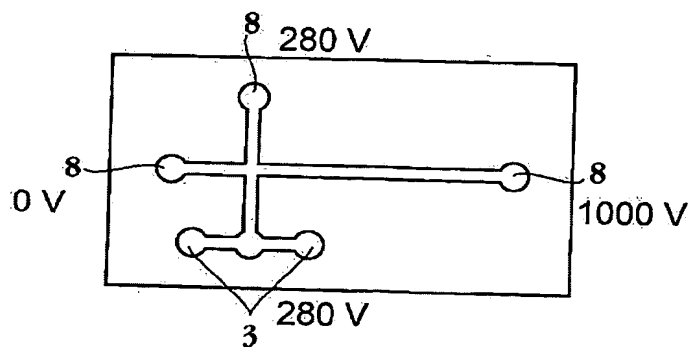


Fig. 28C

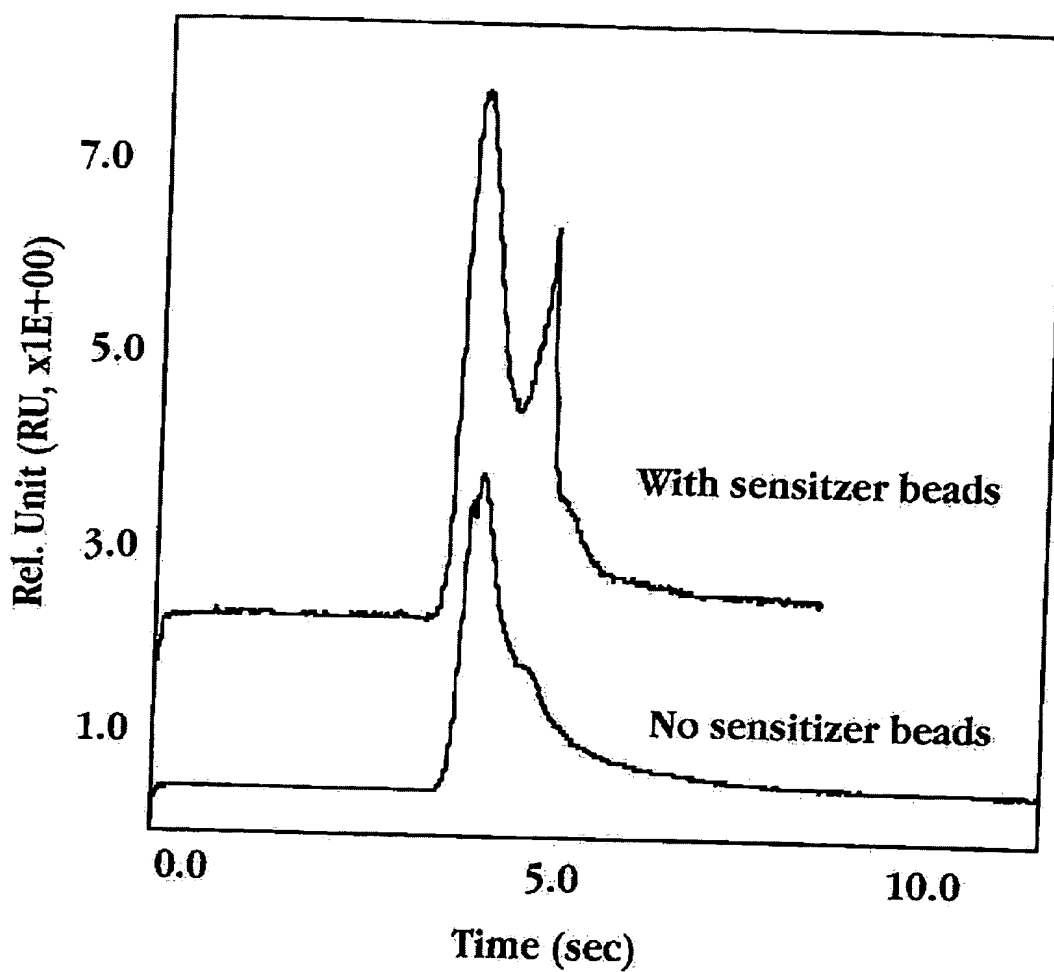


Fig. 29

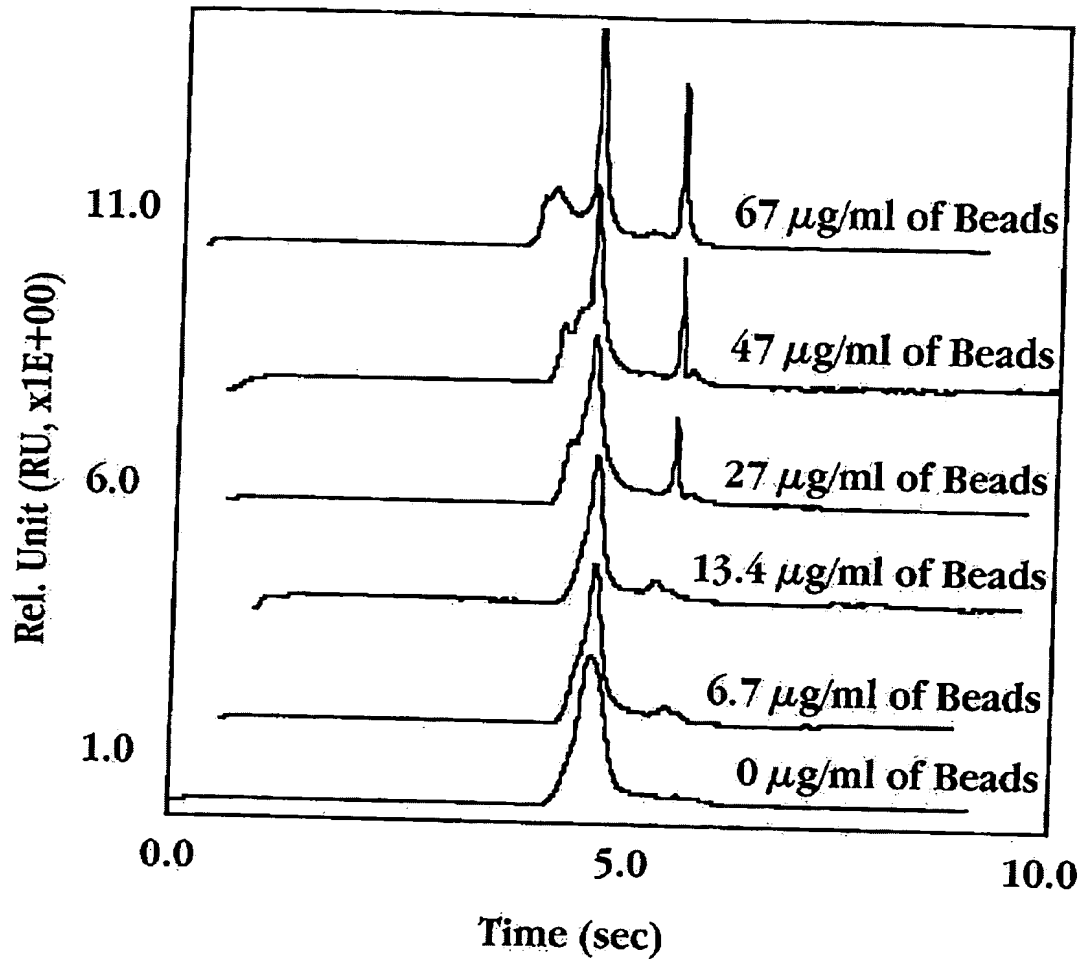


Fig. 30

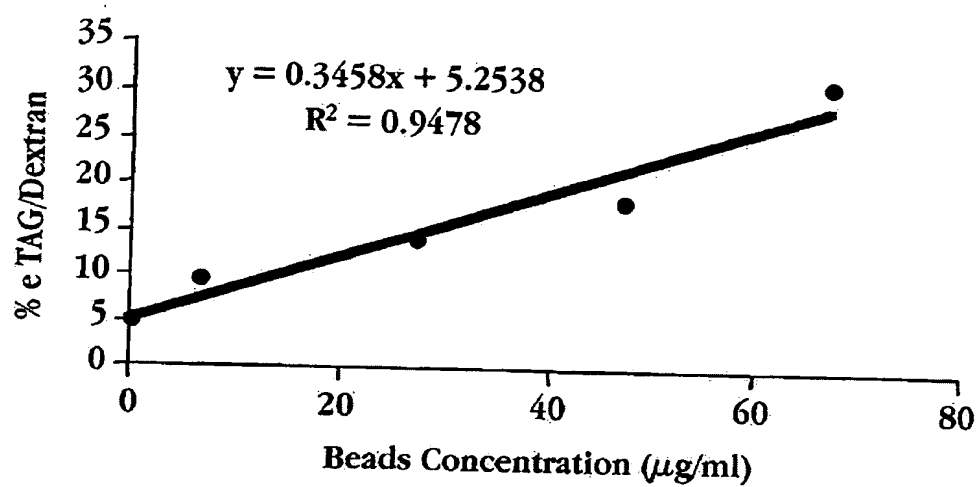


Fig. 31

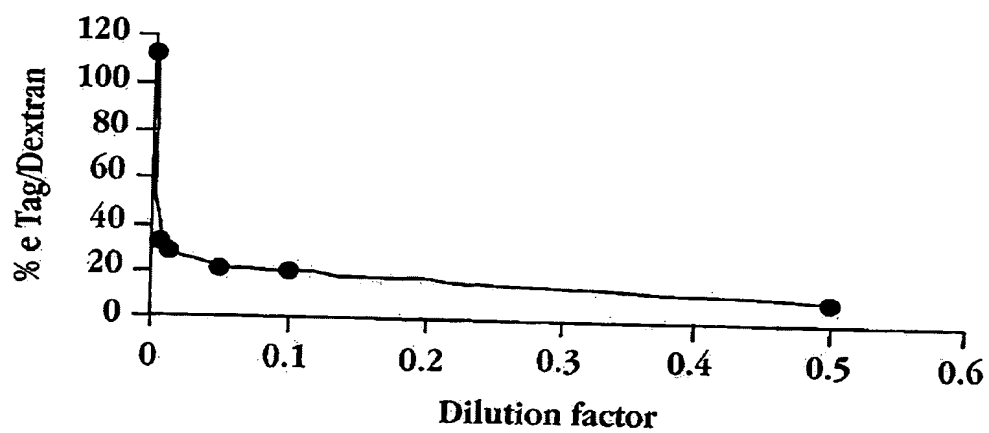


Fig. 32





Fig. 34